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Editorial

At the outset we should mention our gratitude to the authorities of the University of Calcutta for the financial assistance for publication of this journal volume.

This issue contains variety of articles from the members of our Department and from a number of distinguished persons in the field. We are grateful to our contributors and hope to receive their cooperation in future also.

During the last academic session one of the important achievements of the Department was that an extra session for the BLIS course was offered to overcome the gap of one year. Ex-students of the Department who are qualified for University teaching because of their qualification of having cleared Net or having PhD degree, were invited as Guest lecturers for the extra-session and they accepted this honorable offer voluntarily without remuneration. The Department acknowledged their sincere and heartfelt cooperation in this regard.

The Department is trying its best to expand the size of the Computer laboratory with a good number of PCs, and to build up a laboratory-cum-workshop-cum-library of the Department. The authorities have given green signal in this regard and steps have been taken to fulfil the project. We are very much hopeful of the development of Computer laboratory and establishment of Workshop-cum-library.

According to the need based education of the time, a revised syllabus was introduced in the last session. For the purpose of updateness, continuity and flexible nature of the syllabus, a Syllabus Review Committee has been formed in this session to bridge gaps between the course curricula and professional and academic advancements in the field.

The Department has also successfully completed one UGC sponsored Refresher Course(RC) under the Academic Staff College of the University(ASC-CU). The Coordinators of this course had all the sincere

cooperations from the teachers and students of the Department, the participants and the resource persons and the authorities of the University to run the course.

A condolence meeting was held to remember Prof B S Kesavan, an ex-part-time teacher of this Department who was very deeply involved in the process of development of the Department. His personality and his contributions were highlighted by the eminent speakers in this meeting.

Like in the previous academic years, a number of extramural lectures had also been arranged.

A state level interactive seminar was successfully held for the purpose of career prospects and development of the LIS students. The Vice-Chancellor, the Pro-Vice Chancellor(BA&F) and other officers of the University and a good number of high-profile persons from the media, the corporate sector, the Government agencies and academia and also some of the ex-students were present. The seminar generated a great enthusiasm and inspiration among the students of the Department.

Dr P K Mahapatra retired from the Department on completing the age of sixty five after a long and remarkable service as a teacher of the Department and as a respectable academic in the field.

BIPLAB CHAKRABARTI

Information are for use

Every client or user his/her Information

Every bit of Information for satisfaction of its client or user

Save the time of the client or user

The world of Information is like a fast growing organism

ISO : 9000 and Quality Improvements in LIS

HIRAN KUMAR DUTTA
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Development Consultants Ltd.

1.1 Quality : Concept

"Easy to recognise ..... difficult to define" so starts the UK Library Association's answer to the question "What is quality?" We speak of a "quality products" and mean that it performs its function well. We talk of a "quality service" and mean that they not only meet our expression but even exceed them providing not just the service we need but going so attractively, employing friendly staff in a welcoming atmosphere. Everywhere we are exhorted to seek quality yet, rarely are we offered a clear definition of what is meant. At the same time we can also too easily recognize it by its absence, when products break or malfunction or those serving us are rude or indifferent. There in lies an important clue. It is when we, as users, consumers or customers find, our needs and wants unmet, our expectations frustrated that we complain of poor quality. (Annexure - 1,).

1.2 Quality : Definition

The International Organisation for Standarization (ISO) : 8402-1994 defined Quality as "the total features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs".

2. Quality Management (QM)

There is an old maxim in management which says "If you can't measure it you can't manage it" and so it is with quality. Quality is to be managed — it will not just happen. Much of the literature of QM is based on experience drawn from industrial organisations. In recent years there has been welcome

broadening of QM into services. With this broadening of applications, has come, recognition that some aspects of QM need to be approached somewhat differently in services. Obviously, such new undertanding is particularly relevant to libraries and information services. However, QM is that aspect of the overall management function which determines and implements the quality policy of the organisation.

3. Quality Management System (QMS)

The QMS organizes overall activities of an organization in such a way that the technical, administrative and human factors affecting the quality of its products or services under control. It guides the coordinated action of people, machines and information to achieve the quality objectives.

3.1 Total Quality Management (TQM)

ISO defines TQM as "Management approach of an organisation, centered on quality based on the participation of all its members and aiming at long term success through customers satisfaction, and benefits to all members of the organisation and to society".

TQM is basically a philosophy or concept or approach aiming at satisfying customer's / user's needs on a continual basis (Quality - first time, every time, all the time) by involving each and everyone (Total) in the system and at a lower cost (Management).

4. ISO : 9000 Family

The ISO - 9000 is a set of worldwide standards that establish requirement for the management of quality. This guideline is intended for organizations that plan to implement quality improvement programme (QIP), quality management systems (QMS), and TQM. QM, QIP, etc. all are embodied within TQM. (Annexure - 2).

* ISO : 8402	:	QM & QA — Vocabulary.
* ISO : 9000(Pt. 1,2,3,4)	:	Guidelines for Selection & Use.
* ISO : 9001	:	Model for QA in Design, Development, Production, Installation & Servicing.
* ISO : 9002	:	Model for QA in Production, Installation and Servicing.
* ISO : 9003	:	Model for QA in Final Inspection& Test.

* ISO : 9004 (Pt.1) : QM & QS Elements Guidelines.
* ISO : 9004 (Pt.2) : QM & QS Elements Guidelines for Services.
* ISO : 9004 (Pt.3) : QM & QS Elements Guidelines for Processed Materials.
* ISO : 9004 (Pt.4) : QM & QS Elements Guidelines for Quality Improvement.

Upon pubications of the revised edition of ISO : 9001 in 2000, ISO : 9002 and ISO : 9003 will be withdrawn and provisions of the same will be incorporated in ISO : 9001. Morever, this new edition carries a revised title, which no longer include the term QA & more emphasis has been given on customer's satisfaction. Similarly the title of the revised ISO : 9004 : 2000 will be Quality Management Systems — Guidelines for Performance Improvement.

These two standards i.e. ISO : 9001 : 2000 & ISO : 9004 : 2000 are designed to be used together, but are also capable of being used as stand — alone documents. For ease of use, these two ISO have similar structures but different scopes.

The ISO : 9001 states QMS requirements for use as a mean of ensuring conforming product and/or service, and may be used for certification purposes.

ISO : 9004 gives guidance on all aspects of a QMS, to improve overall performance of any type of organisation. It is not, however, intended as guidance for compliance with ISO : 9001.

5. Who Would Implement ISO : 9000 ?

ISO : 9000 can be adopted by —

5.1 *Industrial (Manufacturing) Organizations* : Automobiles, Electric Machineries, Steel, Cement, Medicine, Paper, Fertilizer etc.

5.2 Service Organisations

- *Technical* : Consultancy, Engineering, Test Lab.
- *Professional* : Architectural, Legal, Medical, Management.
- *Hospitality & Entertainment* : Catering, Hotel, Tourism, Television, Radio.
- *Financial* : Banking, Insurance, Pension, Property.

- *Transportation* : Airlines, Rail, Road, Sea Transport.
- *Communication* : Postal, Telecom, Courier, Internet.
- *Health Services*: Hospitals, Nursing Homes, Ambulances, Med. Labs.
- *Education* : Academic Institutions, Library & Information Centres.
- *Maintenance* : Electrical, Mechanical, Air-conditioning, Building, Computer.
- *Government*: Public administration, Public services, Taxation, Licensing authority.

6. ISO : 9004 (Pt.2) : Quality Management & Quality System Elements - Part 2 Guidelines for Service

Quality and customer satisfaction is the most important objectives of any quality system. To achieve the quality it is essential for the service organization, that —

- ♦ Customer User Consumer needs are properly understood and met.
- ♦ Commitment to quality at all levels of organization is made.
- ♦ A QMS is established for continuous review and improvement of quality based on the customer's feed back and their perception of the service provided. (Annexure - 4).

The most important elements covered in this part include :

- * Characteristics of services and service delivery, and how to control them.
- * QS principles — management responsibility, personnel and material resources, QS structure and interface with customers.
- * Operational elements — marketing, design and service delivery process, and service performance analysis and improvement.

6.1 Service Characteristics & Quality

A key observation is that in services there is usually a direct interaction between the customer and the services. Restaurants, consultants, hospitals, banks, libraries and information centers, transport services etc. have in common — the immediacy of contact between the provider and the customer.

Management of services, because of both the immediacy and the dynamic nature of the customer interface, is very much concentrated on the management of this interface.

Services have some unique characteristics which need to be considered and which arise because of the way that the customer interactions take place, each of these characteristics can influence the application of QM. Researches conducted by various market research groups listed some major *determinants* of service quality. They found that, consumers use basically similar critria regardless of the type of service as follows :

- Access : The service is easy to obtain in convenient location at convenient times with little waiting.
- Communication : The service is described accurately in customer's language.
- Competence : The employees possess the required skill and knowledge.
- Courtesy : The employees are friendly, respectful and considerate.
- Credibility : The organisation and employer are trustworthy.
- Reliability : The service is performed with consistency and accuracy.
- Responsiveness : The employees respond quickly and creatively to customer's request and problems.
- Security : The service is free from danger, risk, doubt.
- Tangible : The service correctly project the service quality.
- Understanding/Knowing the customers : The employees make an effort to understand the customer's need and provide individual attention.

6.1.1 Examples of Some Service Quality Standards

The service sector organisation like Bank may set standards for the time to effect payment against a cheque, time to issue cheque books, time to update pass book etc. An insurance company can set standards for the time to finalise a proposal, to issue a policy and most important is the time to settle the claims. In a hospital one can set standards for services e.g. time taken between a

patient's entry to the hospital receiption and the start of treatment or the time taken by nurses or doctors to attend the patient etc. Most of the items in the above examples concerns promptness of services. But standards can also be set for efficiency, courtesy or completeness etc. of the services provided as stated earlier. The LIC, which is basically service organisation, can also set similar standards for the IS they are rendering e.g. CAS, SDI, Inter-library loan, access to the national and international data bases through INTERNET sor other networks, attending reference queries and referral service over phone, fax, or e-Mail or personal contact etc.

7. ISO : 9004-4 : 1993 : Quality Management (QM) & Quality System (QS) Elements Part 4 : Guidelines for Quality Improvement.

7.1 Scope : This part gives management guidelines for implementing continuous quality improvement within an organisation.

The ways of adopting and implementing those guidelines depends upon factors such as the culture, size, nature of organization the types of products or services offered, and the market and customer needs served. Therefore an organization should develop an improvement process suited to its own needs and resources.

This part of ISO : 9004 is not for contractual, regulatory or certification use.

7.2 Definitions

7.2.1 Process :

A set of inter related resources and activities which transforms outputs, Resource may include personnel, facilities, equipment, technology and methodology.

7.2.2 Supply Chain :

A set of inter related processes that accepts inputs for customers. Input & outputs can be either product or services customers and suppliers can be internal or external to the organisation customers includes users or consumers.

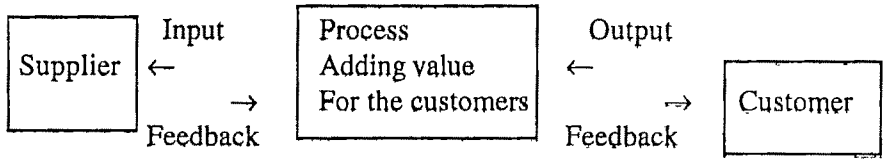
7.2.3 Quality Improvement

Action taken throughout the organisation to increase the effectiveness and efficiency of activities and processes to provide added benefits to both

the organization and its customers.

7.2.4 Quality Losses

Losses caused by not realizing the potential of resources in processes or activities. Some examples are the loss of customer satisfaction, loss of opportunity to add more value for the customer, the organization or society as well as a waste of resources. Quality losses are a subset of quality costs.



7.2.5 Preventive Action

An action taken to eliminate the cause of a potential non-conformity, defect or other undesirable situation in order to prevent occurrence.

7.2.6 Corrective Action

An action taken to eliminate the causes of an existing non-conformity, defect or other undesirable situation in order to prevent recurrence.

7.3 Fundamental Concepts

7.3.1 Principles of Quality Improvement (QI)

The quality of an organizations products, services and other outputs is determined by the satisfaction of the customers who use them and results from the effectiveness and efficiency of the processes that create and support them.

It is achieved by improving processes. Every activity or item of work comprises one or more processes. QI efforts should be devoted towards constantly seeking opportunities for improvement, rather than waiting for a problem to reveal opportunities.

7.3.2 Environment for QI

7.3.2.1 Management Responsibility & Leadership

The responsibility and leadership for creating the environment for continuous QI belong to the highest level of management. Managers lead QI

by communicating purpose and goals, by continuously improving their own work process, framework and respect for the individual and by enabling and empowering everyone in the organization to improve their work processes.

7.3.2.2 Recognition

The recognition process encourages actions consistent with values, attitudes and behaviour necessary for QI. It emphasize the development and growth of individuals and consider the factors which influence an individuals work performance. Furthermore it should emphasize group performance and encourage frequent and informal feedback.

7.3.2.3 Education and Training

All members of an organization, including the highest levels of management, should be educated and trained in quality principles and practices and in the application of appropriate methods for QI. This includes the use of QI tools and techniques e.g. Data collection from, customer/users Benchmarking, Flow Chart, Histogram etc.

7.4 Managing for QI

Although the application of any of the techniques mentioned above will give some incremental improvement, their full potential can only be realized if they are applied and coordinated within a structured framework. This requires organizing, planning, measuring for QI and reviewing all QI activities.

7.4.1 Measuring & Reviewing QI Activities

An organization should develop a measurement system, that fits the nature of its operation, for identifying and diagnosing improvement opportunities and for measuring the result of QI activities. The measurement should relate to quality losses, accurate with customer's satisfaction, process efficiencies and societal losses and to be reported to the management for review and for appropriate action where any discrepancies have been identified.

7.5 Methodology for QI

The various steps involved in QI are :

- Involving the whole organization (all members at all levels).
- Initiating QI projects and activities — a person or team to be assigned, establishing a schedule and allocating adequate resources.
- Investigating possible causes — for understanding the nature of

the processes to be improved based on collection, validation and analysis of data.

- Taking preventive and corrective actions.
- Confirming the improvement — if after preventive or corrective actions are taken, the undesirable results continue to occur as before, it will be necessary to define the QI activity by returning to the initiation step.
- Sustaining the gain — after QI has been confirmed, it needs to be sustained. This involves a change of specifications and/or operating or administrative procedures and practices, necessary education and training and making sure that these changes become an integral part of the job content of everyone concerned.
- Continuing the improvement if the desired improvement is obtained new QI activities to be selected and implemented.

7.6 Supporting Tools & Techniques

Decisions based on the analysis of situations & data play a leading role in QI activities. Success of the same enhanced by proper application of tools & techniques developed for these purposes e.g. Data — collection form, affinity diagram, benchmarking, cause — and — effect diagrams, flow — chart, control chart, histogram etc.

8. QI Programme in LIC

To implement any QI programme it is essential tha the objectives, policies, systems and procedures should be documented in a systematic and orderly manner. Those documents named as service quality manuals/procedures which help an organisation to improve the service quality as they :

- Cause people to work in an uniform way and minimize variability.
- Reduce reliance on particular persons for carrying out important operations.
- Serve as a reference material for personnel training.

In LIC context those documented policies and procedures are incorporated in LIC Manual.

8.1 LIC Manual

The manual is designed for use by the LIC staff members for a clear

understanding of their duties, responsibilities and authorities. It defines the objectives of the LIC set up, usually the objectives of the parent organization and thereby, tailor their activities and services to meet these objectives.

The manual details out the activities of every section, giving information about various tools, registers, files, forms, equipment etc. to be used in that section. The distribution work and procedures described for each activity illustrate the duties and functions of each staff member in detail.

The manual can also help the customers - users to enlighten themselves about the various activities and services being performed or rendered by the LIC.

8.1.1 Organisation Structure

The organisation structure consists of defining the work to be done and the hierarchical responsibility and relationship for doing it. (Annexure 5,6).

8.1.2 Quality / Performance / Improvement / Records & Forms

- LIC Manual
- Registers - Accession, Periodical, Binding etc.
- Inventory of furniture, equipment and machines.
- List of approved vendors - suppliers of learning resources.
- List of approved vendors - suppliers of furniture, equipment, machines etc.
- Purchase orders, Binding orders.
- Standards forms - requisition, suggestion, complaints etc.
- Records relating to the actions (corrective & preventive) taken.
- Review / Quality / Performance audit reports.
- Statistics - purchase, acquisition, circulation, ref. services, reprographic service, SDI, bibliographic & documentation services etc.

8.1.3 Updating the Manual

The staff members of the LIC should strictly follow the procedures and practices laid down in the manual. But while performing their duties and responsibilities, if they feel any inconvenience inadequacy or other problem they should bring it to the notice of the top management along with suggestions if any. Similarly, analysis of the users survey and library statistics may call for any modification, deletion of existing procedures, practices, forms etc. for the

improvement of the services. All these suggestions and changes may be considered for implementation on trial basis, and if proved to be relatively more effective, the same should be incorporated in the manual. Thus the manual needs constant updating in order to serve as an active and effective guidelines.

8.2 Marketing Approach

Again unless we know the changing needs or demands of the consumers precisely, we cannot satisfy them. Hence, the marketing approach is essential. Marketing in the context of LIS, is not merely a buying or selling exercise. It aims at (i) identification of the users group (ii) determination of the needs, wants & demands of each users group and (iii) fulfillment of the same through designing and delivering appropriate information products or services (IS) more effectively. Secondly it also aims at creating information awareness and consciousness among the users and reaching out to the potential users with IS rather than wait for them to ask for. A marketing exercise should be, therefore, carried out with the organizational goal and objectives and this is the only way the LICs will thrive better.

8.3 Users Survey & Library Statistics

Regular interaction with users — know your users — how good or bad the LIC is in the eyes of the users?

Users are the most important element in any quality improvement (QI) programme, as all the activities and services are directly related to the user satisfaction. Hence, it is essential to know, as clearly as possible the exact needs of the various users communities, (e.g. student, teachers, research fellows) so that all the LIC activities involved in the development of resources (acquisition), their processing (organisation) and utilization (services) are tailored to meet such needs. However the users need can be accessed through the following two ways :

Direct : Complaints and suggestions are invited from users.

: Formal feedback obtained through structured questionnaires.

Indirect : Statistics of various library activities and services (e.g. acquisition : circulation : reference, ILL, SDI services etc) to be maintained by the LIC staffs.

✶ Analysis of the complaints, suggestions and survey findings

- ✶ Analysis of the findings received from various library statistics
- ✶ Identification of the areas (collection, facilities, services etc.) required to be given more attention and or be improved.
- ✶ Preparation of action plan, modification of the existing procedures and practices — reallocation of resources (manpower, equipment, fund etc.)
- ✶ Review of th same, if desired improvement is obtained, report it to the management and select another area identified earlier.

Examples of some feedback received from users survey and library statistics have been illustrated in Annex : 7, 8.1, 8.2 & 8.3

8.4 Managing Human Resources : Behind users/customers satisfaction - the internal users/customers.

Success of any QI programme depends largely on the most crucial elements in the QMS — the People, responsible for making it happen. Unfortunately in LIC context this aspect is not given due attentin. Quality will definitely come up when every individual working in the LIC is taken into confidence and when all of them are made aware of the mission, goal and objectives of the LIC.

The managerial approach towards achieving quality in LIC should undergo a paradigm shift from viewing the staff as mechanical entities to regard them as internal customer. The QMS also calls for creation of collective responsibilities for customers satisfaction. Just as the managers internal customers are defined, each staff member has colleagues who accept his/her services as input for the service they deliver. As an example, the organisation staff, for instance, would treat the circulation staff as their internal customers. Requests put to the circulation/reference desk for documents not held by the library can serve as a use full impute for the acquisition staff to further enrich the collection as well as increase user satisfaction.

However, the performance of any service organisation depends upon the quality of human response, which, in turn depends upon developing a positive work culture. It includes —

- Training and retaining
- Transparent policies

- Clear, consistent, fair and adequate rewards
- Supportive environment

9. Conclusion

The applicatin of QM in the context of LICs seems to be of comparatively recent origin. But Dr. S. R. Ranganathan's Five Laws of Library Science, published in 1931 have so many implications similar to what is advocated in QM. These fundamental Laws of Library Science from the Normative Principles containing in the latent form of all the library practices at any time and to be evolved at a later time. A new chapter in its second edition published in 1957 shows how some of its implications not current in library practice a quarter century ago, have then become current to suit the boundary conditions of Library sevice set up by the pressure of the social concept of today. In particular, the term "Book" should be generalised in the present day context to mean a "Document" which include any embodied thought, micro or macro".

But after 50 years, at this juncture of the 20th century and the beginning of the new millennium, those normative principles are found to be equally valid and their implications are very much current in modern LIS practices.

The first Law "Document (Information) are for use" has advocated to change the conservative attitudes of the LIS personnel and to appreciate that just having information and storing it will serve no proper purpose unless it is put to effective use by those who need it. The methods, systems and procedures followed in LICs to be changed or modified as and when required and should lay emphasis on the use and the users of information more than anything else. The Second and Third Laws, i.e. "Every Reader (User) His Document (Information)" and "Every Document (Information) Its Reader (User)" indicates the marketing approaches underlying in the QM, QI or TQM. Those not only advocates for the survey of and feed-back from the users and to design and render LIS befitting their actual needs; but also suggest something more than that — to reach out to the potential users with various IPS rather than to wait for them to ask for. In the Fourth Law "Save the time of the Reader (User)", explanation for the term "Documentation" as pinpointed exhaustive and expeditions organisation and retrieval of information, is what the sum and substance of the QM approach is. This shows that the focus of LIS, foreseen by Dr. S. R. Ranganathan, even in 1931, was on customer satisfaction symbolised by user satisfaction.

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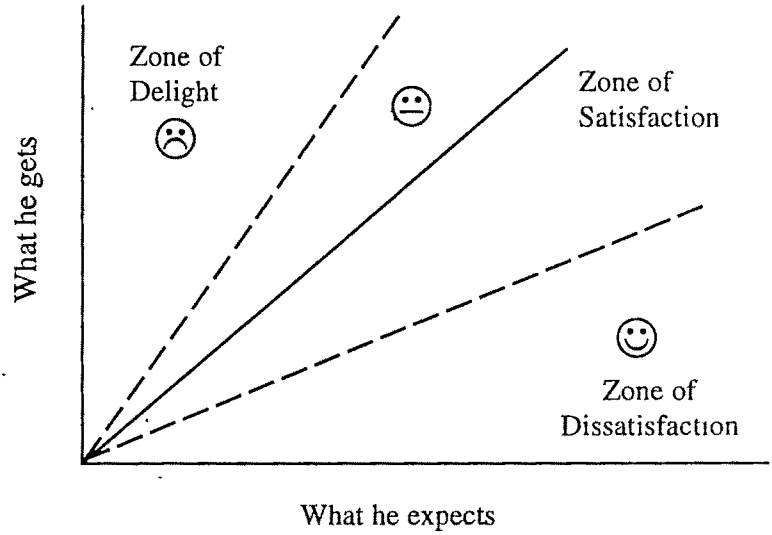
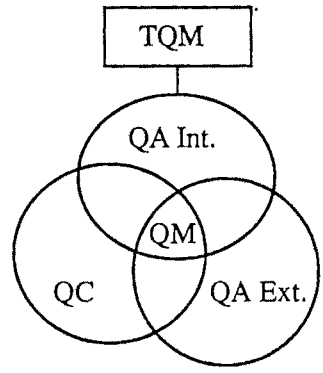
Annexure - 1.

Depending on the extent to which his requirements are met, a customer may be classified as dissatisfied, satisfied or delighted. If his requirements are not adequately met, a customer will be dissatisfied. If his requirements are just met, he will be satisfied. If, however, his requirements have been exceeded, he will be delighted. Thus the dissatisfaction, satisfaction and delight of the customer is dependent on his expectations and the performance of the product or service. If the expectations are high and the performance of the product or service is not up to the mark, dissatisfaction is the result. If the performance matches the expectation, the customer is satisfied. If the product or service performance exceeds the expectations of the customer, he is pleasantly surprised or delighted. This is depicted in Diagram.



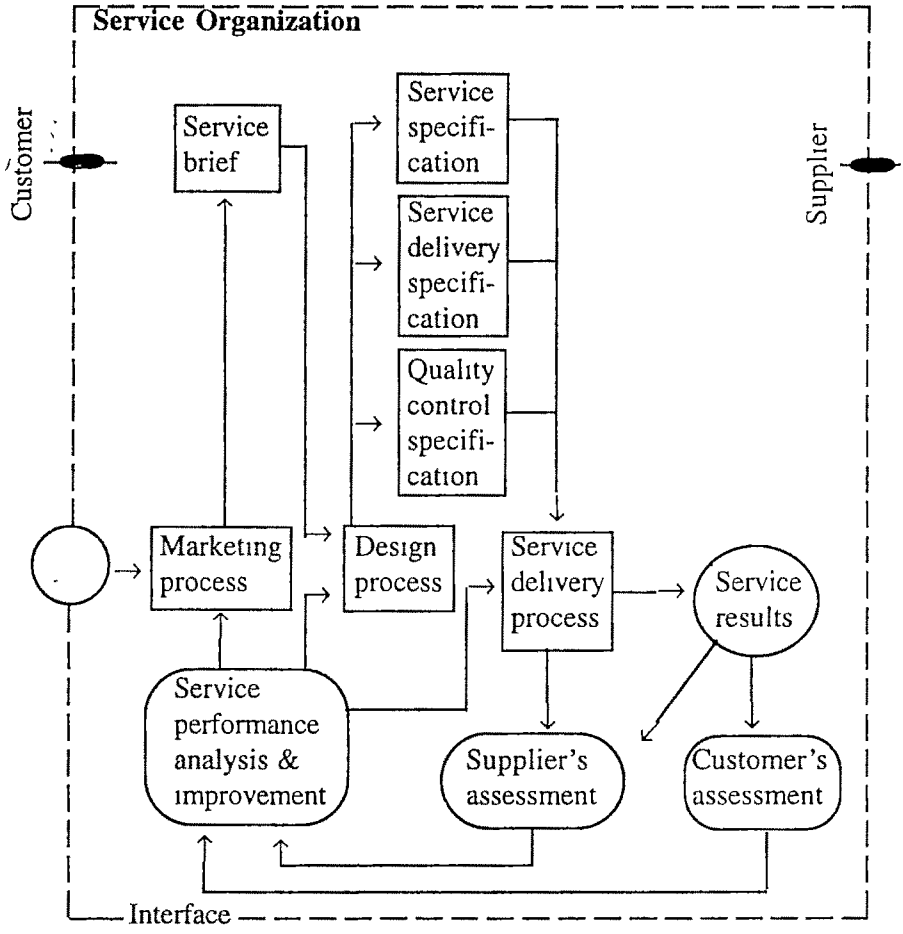
Annexure : 2



Quality	: The totality of characteristics of an entity that bear on its ability to satisfy stated and implied needs.
Quality Policy (QP)	: Quality intentions and direction of an organization fomally expressed by top management.
Quality Control (QC)	: Operational techniques and activities to fulfil requirements for quality.
Quality Improvement (QI)	: Activities to improve effectiveness and efficiency of activities and processes.
Internal Quality Assurance (QA.Int.)	: Activities to provide confidence to management.
External Quality Assurance (QA.Ext.)	: Activities to provide confidence to customer.
Quality Management (QM)	: Activities to determine and implement quality policy by means of quality planning, quality control, quality assurance and quality improvement within the quality system.
Total Quality Management (TQM)	: Management approach that emphasizes that QM must be applied by all people in the organisation for all processes in the organisation for the benefit of all stakeholders.

Synthesis of Quality, Concepts

Annexure : 3



Service Quality Loop

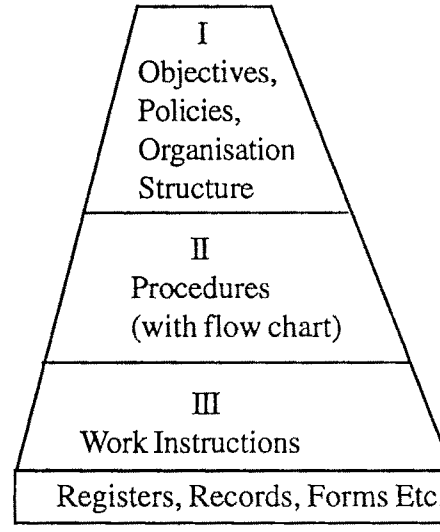
Annexure : 4

Concerned Authority

I Head of LIC

II heads of the functional Units

III Supervisors and Operators



LIS Manual

Annexure : 5

Manpower — Brief Job Description

Position	Duties and Responsibilities
Head of the LIC/	Planning and development; (collection; finance manpower); building; resource sharing and net-working; reader services; external relations; inter-cluster-coordination; and overall management.
Deputy Librarian	Collection development. Acquisition of learning resources; furniture and fittings/ siminars, workshops
Assistant Librarian I	Automation. Systems (H/W & S/W), data and security, Machines & Equipment's.
Assistant Librarian II	Ordering and control of reading materials (other than periodi-cals); library/stores/Book review
Assistant Librarian III	Ordering and control of periodicals/micro-documents/ servies
Technical Assistant (Sr. I)	Technical processing; Thesaurus construction; OPAC updation; CAS, conservation of documents
Technical Assistant (Sr. II)	Reference and information; ILL external clientele, stack maintenance; and physical verification
Technical Assistant (Jr. I)	Membership registration / clearance. Circulation control; reprography; furniture / equipment inventory.
Technical Assistant (Jr. II)	Clipping and documentation services; binding / Data entry support to acquisition, technical processing.
Library Attendant (I)	Shelving and shelf rectification support to circulation and technical processing; library opening / closing.
Library Attendant (II)	Circulation; assistance in shelving & shelf rectifi-cation; library opening / closing.
Typist / DEO	Typing / data entry supports to librarian & deputy librarian leave records.
Library Attendant (III)	Library opening. Newspapers and magazines. Use and upkeep of the reading rooms. Circulation of periodicals Facilitating use of corporate reports and complimentary literature; current contents.
Sr. Machine Operator	Reprography (Xerox and micro-form reading and printing). Account keeping and billing. Assistance in the use of Micro-forms and A.V. Materials, equipment; maintenance and upkeep.
Peon / Office boy 3 Nos.	Physical processing; movement of papers, files and reading material. Assistance in shelving, physical processing and binding Cleanliness and upkeep; electricity (on/off). Entrance/Exist monitoring. Out door

Annexure : 6

Findings of Users' Survey (through structured questionnaires)

a) Usage of Use of Various Learning Resources

No. of respondents = 116 (Students)

Type	Up to 20%	21% to 25%	51% to 80%	81% to 100%
Books	12(10%)	49(42%)	50(44%)	5(4%)
Periodicals	96(82%)	18(16%)	02(0.2%)	0
Conference/ SeminarProceedings	67(58%)	0	0	0
Microforms	56(48%)	14(12%)	0	0
Audio-Visuals	61(53%)	0	0	0

b) Rating of the Reading Environment

No. of respondents = 116 (Students)

Elements	Excellent	Good	Fair	Average	Poor
Reference Room	58(50%)	44(38%)	11(9%)	03(0.3%)	0
Gen. Book Stock	46(40%)	52(45%)	17(14%)	01(0.1%)	0
Periodical Room	46(40%)	57(49%)	03(0.3%)	08(0.7%)	01(0.1%)
Text Book Room	44(38%)	61(53%)	05(0.4%)	02(0.2%)	04(0.3%)

c) Rating of various Services

No. of respondents = 160 (Students)

Elements	Excellent	Good	Fair	Average	Poor
Lending	30(19%)	50(31%)	41(25%)	39(25%)	0
Reference	84(53%)	45(28%)	25(16%)	6(4%)	0
Inter-Library Loan	20(1350	38(24%)	50(31%)	42(26%)	10(6%)
CAS	60(37%)	58(36%)	12(8%)	30(19%)	0
Bib./Doc	18(11%)	30(19%)	72(45%)	35(22%)	5(3%)
Reprography	40(25%)	70(44%)	28(17%)	20(13%)	2(1%)
INTERNET Browsing	80(50%)	30(19%)	30(19%)	18(11%)	2(1%)

Annexure : 7.1

Type	No. Procured	Amount Spent (Rs.)	Total Amount Spent (Rs.)
Books	1572(30)*	200,000	
Conference Seminer Proceedings & Reports	55(21)*	23,000	
Periodicals	205(35)*	125,000	3,61,000
Microforms (articles)	37	5,000	
Video-cassette	12	6,000	
Maps	158	21,200	
()* Complimentary			

Statistics : Acquisition : 1998-1999

Annexure : 7.2

Subject	No. of Titles	Amount Spent (% of Total) (Rs.)	
Reference Books : General	31	11,000	(5)
Philosophy	102	10,000	(5)
Psychology	68	7,800	(4)
Sociology	51	81,200	(4)
Political Science	105	12,000	(6)
Economics	83	10,000	(5)
Laws	33	2,100	(1)
Physics	103	11,000	(5.5)
Chemistry	101	10,500	(5.5)
Biology	50	9,900	(5)
Zoology	83	9,900	(4.5)
Physiology	85	9,900	(5)
Botany	99	8,900	(4.5)
Mathematics	105	10,000	(5)
Statistics	68	8,000	(4)
Language & Literature (English)	135	11,000	(6)
Language & Literature (Bengali)	140	11,000	(5.5)
Other subjects	101	39,100	(2)
Total	1542	2,00,000	(100%)

Statistics : Acquisition : Books Subject-wise 1998-1999

Annexure : 7.2

Services		To Teachers	To Resea-rch student	To Stu-dents	Total
Circulation	Books	3050	272	10560	12882
	Periodicals	309	151	505	965
Inter Library loan books	Lent out	15	5	-	20
	Borrowed	45	10	-	55
Photocopies Articles	Procured from outside	20		-	35
	Provided from own collection	135	5	-	230
Xerox copies	(Pages)	2310	730	4650	7690
Microform	Viewing (articles)	89	43	-	132
	Printing (articles)	35	20	-	55
	Through INTERNET	5	10	-	15
Bibliographies & Documentation Lists	From other sources	12	11	-	23
Reference queries attended		135	32	267	534
Current Awareness services	Current contents (periodicals) (issues per year)				12 issues
	Books review (issues per year & no. of books reviewed)				6 issues 256 titles

Statistics : Library Services : 1998-1999

Abstract : From the stand point of his practical experience in getting ISO 9000 for his Library, the author provides a detailed guideline for quality improvement in Library and information Centres. In this context he discusses about the concepts of quality and total quality management and a manual of work in Library & Information Centre management.

School Library Movement : From Another Angle

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The role of school library in establishing the base of the educational curriculum in all levels of formal education is well known and needs no clarification. Mudaliar Commission (1953-53), Kothari Commision (1964-66), Mitra Commission (1992) — all suggested post for trained librarian at schools and the same status of the school librarian as that of teachers in terms of pay scale.

The demand for equal status for school librarians like teachers is based on the edifice of the school library which has been built by educationalists, persons in library movement, social scientists etc. But the irony is that, our makers of the syllabus and planners of the method of teaching have preferred to ignore it and so, the edifice is yet to be achieved. This is the root of failure of imparting education not ony at school level, but also at other levels of formal education. This results in lack of library-minded citizens in the country.

Existing school education systgem confines a child in his/her text books and within four walls of class room. In a class room, following method of teaching is generally followed :

> Students are asked to prepare a lesson from a prescribed text book, in the next class and questions are asked from the lessons prepared by the students. This is invariably done selectively. After the task is over, students are asked ato prepare next lesson.

While teaching, usually, no help of charts, diagrams, figures, models are taken. Students are not encouraged to use Reference Books. In fact, in the

prescribed syllabus of the B.Ed. course, there is no provision for using library as a part of education. As a direct consequence of this, scoring has become the sole aim of the students.

On the other hand, students do not feel any urge for attending classes. They take private tuition. In several cases they do not need to read original books. Reading of 'notes' provided by their private teachers suffices, their purpose, as they think so. Strangely enough, the teacher who is teaching a particular subject in his class is teaching the same subject to a section of his school students in his private tuition class. The school education has made its base on 'private tuition' and 'notes'.

Therefore, on one hand, the place of 'library' in the school curriculum is void and worsening the situation is, defiance of attending classes by the students; the role of library being washed away by dint of the later situation.

As a consequence of the above situation, the use of libraires is degenerating. This makes the demand for same status of school librarians like teachers, a paradox. In these circumstanes, when a school librarian is asked to take classes in class rooms, he or she finds little scope for defiance. Just non-ability to prove the competenc of work commensurate with the status (in terms of pay scale) attributed to him/her, makes a school librarian an unworthy person in the eye of the teaching community and students.

Now, the question is, is this the very situation which we, the professionals longed for years? We struggled for equal pay scale for the school librarians like teachers — just ignoring the gradual worsening of the education system.

There is another aspect. School education system without the use of library affects the very purpose of education. It destroys the purpose of education curriculum in colleges & universities. Also it reduces number of readers in Public Libraries. It is well known athat reading habit generates in schools. A student who is habituated to use library while in school, becomes a regular reader of a Public Library. The faulty education system is playing the main role towards diminishing the reading habit of pupils and people.

The main defect lies within designing the syllabus and curiculum. The existing syllabus from Class VIII to Class XII should be thoroughly revised in order to link and associate 'use of library' while preparing the lessons. In achieving this goal, following steps are suggested —

(i) The syllabus from Class VIII, particularly in the 'Madhyamik' and 'Higher Secondary' levels should be reduced;

(ii) The upper limit of students (in terms of number) in a section of a class should be restricted;

(iii) The syllabus should be designed in such a way that while preparing lessons for a subject, a library consultation may be an integral part;

(iv) Eagerness should be created to see other literature on the topic which is taught in the class room, which, in turn would compel the stuent to go to the library and consult other books;

(v) At least one class in a month on each topic (subject) should be taken in library room. In that class, librarian would take part with the teacher and his/her role would chiefly lie in presenting Reference and other Books on the topic (subject) which is being taught by the teacher;

(vi) Specially, in case of History and Geography, use of Maps, Atlas should be carefully blended with the curriculum and help of librarian should be taken in this case in all possible ways;

(vii) In the Higher Secondary level, in literature, at least 50 marks should be earmarked for 'Book-review'. The Librarian will teach this and the students will perform the task in the library;

(viii) At least 200 marks should be earmarked for preparing project in history, geography and science in Madhyamik and Higher Secondary levels and this should be made compulsory.

Users' education, that is students' acquaintance with — how to use the library — should be a part of the curriculum. According to that curriculum, Librarian will prepare a programme for users' education and the class, relating to users' education should be held once in a week.

School library on the whole, should be a place for manifestation of free and spontaneous thought. Therefore, Librarian should arrange extension activities taking care of this aspect. Careful programming of inter-library co-operation with nearest Public Library and District Library; arrange-ment of lecture in the library room on various issues and simultaneous display of books and journals; observation of National days and birth days of renowned persons in such a way that creates reading-habit among students; circulation of new-arrivals; making literary a hobby centre — may be some of the extension activities, to mention a few.

One of the most important thing to achieve this goal is to equip the school library with suitable books — Text; Reference and Text-cum-Reference — with sufficient number. It is suggested that for mostly used books, at least 6 copies of each book should be purchased. Besides, books should be classified and catalogued using proper codes — existing and/or prepared according to the need of the library. Shelf-list card should be prepared and catalogue-cabinet should be used. Library should be equipped with proper furniture. On the whole, the atmosphere of the library should be inviting as well as helpful for users' education.

Movement associated with upliftment of status of school Librarians has not been in terms of pay scale as yet. The pioneers of the movement have so far presented a theoretical and idealistic description of job of school Librarian, and the role of school library as the justification behind the movement, which, in practice does not exist. The result is upliftment of status of school Librarians in terms of pay scale without social dignity, as the school Librarian could have deserved.

It is felt that, time calls for movement for upliftment of status of school Librarian to be associated with the claim for total revision of school curriculum as proposed above. Until and unless it is done, all endeavour with respect to library movement so far as school libraries are concerned would be fragmentary, incomplete and thereby damage the social status of school Librarians.

Abstract : The author explains the movement for upliftment of the Status of School Librarian in West Bengal to be associated with the claim for total revision of school curriculum as a proposal. Without it all endeaver with respect to library movement so far as school libraries are concerned would be fragmentary, incomplete and thereby damage the social status of school librarians.

S R Ranganathan and Library Science

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1. Birth and Parentage

Padmashri Dr. Shiyali Ramamrita Ranganathan Ayar, father of Library Science in India was born on 09th August, 1892 at Shiyali, in the Tanjavoor District of Madras State in his maternal grandfather's house in the North Rampart Street at about 9.30 A.M. He was the first child of his parents. His father, Ramamritha Ayyar was a landlord holding a medium sized landed property but was a learned and cultural man. Seethalakshmi, the mother of Ranganathan was a simple and very pious lady.

2. Education and Teaching Career

Ranganathan's education was inaugurated on Vijayadasami day in October 1897. He was the top boy in the class throughout his school days in the S. M. Hindu High School (Shiyali) and passed the Matriculation Examination in First Class in 1909. He passed the Intermediate Examination held in March 1911, with a high First Class and he also passed B. A. Degree Examination of March-April 1913 with a First Class. In June of the same year he joined the post-graduate (M.A.) class in Mathematics, as the only student of Prof E. B. Ross in the first set after affiliation by the University. He obtained the M. A. Degree in 1916. It was in the end of March or early April of 1917 after finishing his training in the Teachers' College, Saidapet, he appeared in the interview for the post of an Assistant Professor in Mathematics in the Presidency College, Madras. He was appointed to the Subordinate Educational Service, and worked in the Government College in Mangalore and Coimbatore before he joined in the Presidency College on 7th July 1921 and continued for two and half years

from 7 July 1921 to 4th January 1924 when he was appointed to the newly created post of the Librarian of the Madras University Library. He was among the very first librarians who was sent abroad to get himself trained in library techniques. In 1925, he returned from training and took the charge of Librarian of Madras University Library and chalked out the future library plans for India.

3. Master Mind of Library Science

Dr. Ranganathan is perhaps the greatest living Library Scientist of the day. He is also the most prolific writer on Library cience and above all, the father of Library Education. Some call him the greatest theorist of the subject that the world has ever produced; some analyse him as a philosopher and mystic in Library Science; some regard him as the fountain head of classificatory thought; some take him as the greatest advocate of library cause; some regard him as an exponent of intricate ideas and terminology; some make him an ideal for their life; some considered him a versatile personality; some admire him for single-minded devotion to the pursuit of Library Science. But one has to admit here is a master mind as well as mutlifaceted genius in Library Science; who has lived in the library itself during his entire professional career; who has invented library techniques and the methodology of documentation; who is the founder of professional associations; who is the brain behind the library-legislation in India; and who has secured for India a leadership in Library Science in the world. At present library education is the study and interpretation of Dr. Ranganathan's ideas, methodology and work.

4. Dr. Ranganathan's Contribution

India was fortunate enough to have for its first professional Librarian Dr. Ranganathan. Before his appointment as a first university Librarian he was a brilliant teacher of Mathematics in the Madras University. During his studies at University College of London Dr. Ranganathan got an opportunity to visit a number of libraries in the United Kingdom. He observed their working procedures very intimately and studied thoroughly the varying practices followed by them. He felt very uneasy over the absence of any relationship between the varying methods adopted by Western Libraries in one hand and the outdated teaching method followed by the schools of librarianship of Western Countries. On his return from England he started vigorously, systematic research work in India in the field of Library Science; and it is as a result of his painstaking efforts that enormous research work has been done in this field in India and that India has been able to contribute a great deal of foundation and development of Library Science. The researches of Dr. S. R. Ranganathan

in Library Science have been responsible for enhancing the prestige of the country in the international sphere; and at present one can hardly imagine any book being written on Library Science in any part of the world without mentioning India's contribution in the field of Library Science. His contribution to the library world is not only vast and varied but is original, as well. In the capacity as a teacher of the library school, as a writer of 62 scholarly books and 1500 articles on Library Science, as the President of the Indian Library Association, as the Chairman of the Library Advisory Committee of the University Grants Commission, in the capacity as the Chairman of various Chairman of various international bodies, Ranganathan has contributed his mind, health and wealth only to the betterment of library profession. He has brought the renaissance in this field of study within and outside India

We have heard of Panizzi, Cutter, Dewey, Bliss, Sayers, Lubetzky and their manumental contributions to the library profession. Ranganathan is the only Indian librarian who could be ranked along with the above stalwarts. There is no subject relating to Library Science on which Ranganathan has not written authoritatively. He has written scholarly and practical treatises on library classification, library cataloguing, library administration, book selection, reference service, library planning, library organisation, library training and documentation.

But he is better known to the library world because of his Colon Classification and "Depth Classification". The following are the new selected contributions in the field that have won world-wide recognition and have gained praise from all the leading librarians of the world.

4.1 Five Laws of Library Science

It was indeed a flash light on the world of library profession when in 1931, he brought his most powerful, stimulating and instructive "Five Laws of Library Science". It is the root of his varied and illuminating contribution that stabilized the foundation of library techniques. And Mr. Sayers writes "Five Laws of Library Science is a work of great simplicity which conceals depth and reveals what may be called spiritual but intensely practical springs of his activity". The First Law, Books are for use, asserts the central importance of graphic word in human activity. The Second Law, Every reader his book, provides a positive philosophy for librarianship. The Third and the Fourth Law, "Every reader ... book" and "save the time of the reader" assign an interaction between recorded word and and social dynamics. The Fifth Law, "Library is a faith in the libray's future and an expression of its organic nature.

His "Five Laws" are like the thread of a necklace on which are strung the beads of book-selection, classification, cataloguing, reference work, documentation and the rest.

4.2 Colon Classification

In 1933 Dr. Ranganathan published the first edition of his famous scheme — Colon Classifi-cation which is also known as an "analytico-Synthetic Scheme of Classification. The second edition published in 1939 followed by the third edition in 1950, the fourth edition in 1952, the fifth edition 1957, the sixth edition in 1960 and the seventh edition in 1963. It put Dr. Ranganathan in the rank of world master of classification and also has revolutionized the very basis of classification. It provides schedules of knowledge classes and rules that formulate Call Numbers. And none would deny that his method of analysing knowledge according to Five Fundamental Categories; assigning a faced formula for each subject and then putting the relevant numbers for each foci and then connecting them with appropriate connecting symbols are very much original. His making connecting symbols an integral part of classification is unique. Only this scheme has got the potentiality of keeping pace with our ever expanding and intermingling knowledge. Bliss admits that : "the erudition, industry, insight and ingenuity of the author of Colon Classification are truly admirable. The system is worth study by those who contemplate constructive development in bibliographic classification".

4.3 Cataloguing

Dr. Ranganathan contributed to library cataloguing is equally unique and original. He built up a new code - a Classified Catalogue Code (C.C.C.) on a scientific basis, which took birth in 1934. The most outstanding contribution to the cataloguing theory of "Champion of Parsimony" was the Chain Procedure in the year 1938. Development of scientific principles and canons of cataloguing was a step further. All these new ideas were published in the Theory of Library Catalogue (1938). These principles and canons were further developed in the subsequent editions of C.C.C. To help the cataloguers and students of cataloguing, a manual Library Catalogue : Fundamentals and procedure was created in 1950. Solution of 360 problems have been worked out both according to the C.C.C. and D.C. Code to help the students in comparing the differences of both the codes. A rule by rule comparative study of five important catalogue code of the world i.e. RDC, PIN, ALA, VAT and CCC was made in the light of his normative principles and canons enunciated in his Headings and Canons which was published in 1955.

4.4 Chain Procedure

The unique concept of chain procedure was first expounded by Dr. Ranganathan, Strunch supporter of subject approach, in his theory of library catalogue (1938). It is the digit by digit translation of the class number, assigned to a document into ordinary language. Out of the analysis, sought links are used as the headings of class index entries beginning from the last step. Ranganathan has defined it as a "procedure for deriving subject word entry from a class number, in a more or less mechanical way". Chain indexing as it is popularly known as defined by Batty C Devid is "a method of deriving alphabetical subject index entries in a semi-automatic fashion from the chain of successive subdivision that leads from a general level to most specific level needed to be indexed. It may be used to provide indexes not only to classification schemes and classified catalogues, but also to all other systematically organised indexes, even when they are arranged alphabetically. The chain is nearly always, but not necessarily, taken from a classification schemes in use, and the method is intended to offer general as well as specific access to all information and thus to avoid for arbitrary decisions by the indexer as to how a subject may be approached through the catalog".

4.5 Symbiosis Between Cataloguing and Classification

Before the year of discovery of the chain procedure for finding subject heading for the library catalogue from the class number of the book, no relationship existed between the two branches of Library Science namely cataloguing and classification. The two were regarded as quite separate disciplines and developed independently without any relationship and co-ordination between them. Dr. Ranganathan established a symbiosis between the cataloguing and classification by the method of chain procedure. Symbiosis is reciprocal dependence i.e. where one fails the other comes to its rescue.

4.6 Depth Classification

Classification was originally designed only for arranging on shelves macro-documents. About the turn of the modern century the International Institute of Bibliography in Brussels wished to use it also for classifying micro-documents or articles in periodicals. Dr. Ranganathan has been insisting that to make this possible, a scheme of classification should be capable of providing class numbers, which would individualise and be co-extensive with any micro-thought however narrow its extension and deep its intension. Depth classification is the term used by him to denote such a scheme of classification.

4.7 Architect of Library School

Dr. Ranganathan is the architect of pofessional education in India. He was the first in the country to institute a Diploma Course in Library Science. He did it at the Madras University. He was invited to draft the syllabus for the Benaras School, the Delhi School, the Hyderabad School and the Kerala School. Due to his contributions and efforts, India got the distinction of being the first among the Commonwealth countries to institute library education at the Master's Degree and Doctorate Degree levels. This he succeeded in doing in 1947. The high level of education and teaching was intended to produce leaders in the profession. All thanks to Sir Maurice Gwyer, the then Vice-Chancellor of Delhi University, who spotted out Ranganathan and invited him to Delhi to organise the Department of Library and Information Science and pursue his research at deeper levels. Due to his own contributions, a new methodology in teaching was evolved by him.

A comparative study of the existing practices, with the techniques and practices invented bsy him, created a scientific outlook and paved the way for the systematic study of Library Science. As a result aof this, the merits and demerits of the techniques came to the lime-light for the first time in the world.

4.8 Library Movement

While people discuss, debate and argue about Ranganathan's ideas and techniques athey are apt to overlook his great contribution to the growth of library movement in India. Actually, he is the Father of Library Movement in India. He was among the very first librarians who was sent abroad to get himself trained in library techniques. On his return from training in 1925, he had already chalked out his future library plans for India. In 1927, he took charge of the All India Public Library Conference at Madras. In 1928, he founded Madras Library Association. In 1930, he organised the Library Section of the First All Asia Library Conference at Benaras. In 1933, he and Mr. Montagu drafted the first constitution of the Indiaqn Library Association. In 1946, he opened the first Kerala Library Conference. In 1957, he founded the Madhya Pradesh Library Association. He was the first to draft Model Library Act in 1930. The act was taken to Bengal by Munindra Deb Rai Mahasai. He sought permission sto introduce it in the Bengal Legislature. In short he has been in the thick of the Library Movement and has given impetus to library cause by his writings, speeches, resolutions and plans.

5. Conclusion

Ranganathan was a genius with a purpose who has given new direction

and vision to the profession of Library Science. It is very difficult to sum up all the contributions and achievements made by such an multifaceted genius. He did everything to bring library profession into a reality, to great heights, gave a new stature to it and above all struck a new ground for research in the subject. India is particularly grateful to him for having earned for it a coveted position in the library map of the world. His thoughts and works are sure to serve as beacon light for others who follow him.

He richly deserves to be called "The Father of Library Science". But as a librarian and a classificationist, his contribution is truly international in character. We can conclude by saying : "Growth is slow when roots are deep. But those who light a candle in the darkness will help to make the whole sky aflame".

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Abstract : This explains the Life history of Dr. S R Ranganathan, the father of Library Science and describes the contribution of Ranganathan for the foundation and development of Library Science as a multifaceted genius.

Management of Resources in Libraries & Information Centres

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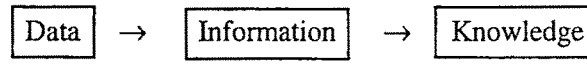
Introduction

Management of resources in modern libraries & information centres can broadly be categorized into following four groups :

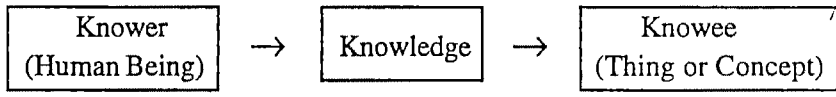
1. Knowledge Resource Management (KRM)
2. Human Resource Management (HRM)
3. Facilities &Technological Resource Management (FTRM)
4. Financial Resource Management (FRM)

1. Knowledge Resource Management

The most important objective of a library and information centre is to provide knowledge and information to different types of people in different walks of life. 'Knowledge' has been defined as 'information acquired by study'. What is information then? It has sometimes been defined as a 'step in process of converted data to knowledge'. 'Data' is usually the accumulation of unrefined facts. 'Data' then changes into 'Information' and 'Information' into 'Knowledge'.



Knowledge emerges when knower & knowee are brought into relation and when knower knows the knowee.



Ever increasing urge for knowledge follows and as a result more and more demands for information containing in various types of documents emerge. On the one hand there exists the ever increasing needs and demands and on the other we find the proliferation of literature in various physical formats. Libraries and information centres at this juncture can play a very important role as medium of communication. All libraries operate at this time with a specific purpose and that is — to facilitate the process of communication. It is here that we find a prolific growth of various types of publications in conventional and non-conventional forms.

1.1 Universe of Knowledge

S. R. Ranganathan once stated that the totality of the knowledge, gained by the human civilisation at any given point of time is the universe of knowledge.

The Universe of Knowledge has various significant characteristics. It is infinite, dynamic, turbulent, continuum and multi-dimensional. As a result there has been a sudden upsurge in the growth of literature. There has been an 'Information Explosion' followed by 'Literature Explosion'. The present day world is flooded with information which is embodied in the form of documents. The librarians, information scientists and all the professionals in this field have to control and keep pace with this evergrowing information with the help of the modern methods of bibliographical control. Dr. Ranganathan's Five Laws of Library Science has been interpreted in the following manner in this modern age of information :

- Information is for use
- Every information user his/her information
- Every piece of information its user
- Save the time of the information user/seeker
- An Information Centre is evergrowing

1.2 Documents

The main purpose of any library or information centre is to provide service with the help of various documents which act as vehicles of communication. It

must perform in such a way that each and every information seeker should have access to information whenever he/she needs it. In order to do this effectively proper management of resources containing knowledge and information is very much essential.

S. R. Ranganathan has grouped documents into following categories :

- Conventional documents
- Neo-Conventional documents
- Non-Conventional documents and
- Meta documents

We may for our purpose group the documents broadly into two categories which are common in almost all the libraries/information centres.

i) Conventional & (ii) Non-Conventional

On the basis of information characteristic, documents may be classified into following three groups :

- ♣ Primary documents
- ♣ Secondary documents
- ♣ Tertiary documents

Collection of any library/information centre comprises of above types of documents. Modern libraries and information centres are seriously thinking on a collection development & management policy to commensurate with the needs and requirements of the users, and the goals & objectives of the library/ information centre.

1.3 Collection Development

According to a scholar of all traditional library functions, the future of collection development in this transformation is certainly one of the most problematic (Ross Atkinson, 1993). From the beginning of 1990s, the forces which appeared to the causing the most change in collection development and management and in all lof librarianship, were rapid advances in information technology along with difficult economic condition and restructuring of the work place. Each and every library collection has to be developed for a definite purpose. It may be developed for research, recreation, community service,

instruction for users etc. or a combination of these or other purposes. It is always suggested that a periodic evaluation be made to determine whether the collection is meeting its objectives, and how it can be improved if there is any deficiency.

There are four following factors for building up the collection :

- The library information centre
- The user community
- The existing holding
- Available resources

1.4 Collection Evaluation

There are two types or aproaches to collection evaluation —

i) Qualitative approach
ii) Quantitative approach

There are basically two methods of collection evaluation :

i) Collection-centred
ii) Use-centred

The collection-centred methods exist to determine the size, scope or depth of a collection. The techniques involved in this method include —

- Checking lists, catalogues & bibliographies
- Examining the collection directly
- Compiling comparative statistics

The use-centred method focuses whether library users can identify and locate the items they need. Whether specific items are indeed available? What unmet needs exist? Who the users are?

Analysis of the results of the following studies may provide information for other subsequent collection development activities such as planning, budgeting or weeding.

- Circulation studies

- In-house use studies
- Survey of user opinions
- Shelf availability studies
- Inter-library loan studies
- Simulated use studies

A comparison of results obtained by different methods are very much useful. It includes both qualitative & quantitative considerations.

2. Human Resource Management

Human Resource management (HRM) is one of the most complex activities in any library or information centre. It may not be possible here to discuss all the issues involved in HRM. I shall take up only important and relevant issues connected with the management of library and information centres which can be supervised and directed by the library managers and administrators.

Activities and jobs in a library can broadly be grouped into following four categories :

* Professional/Managerial
  (members of library governing body and library patrons/users)
* Specialist (Library professionals)
* Sub-professional (Library assistants)
* Non-professional (Routine work assistants)

The work contents of libraries can generally be categorised as follows :

* Managerial Activity
  (Planning, organising, leading & controlling of the library)
* Professional Activity
  (Classification, Cataloguing, Book selection, Reference, Bibliographic work etc.)
* Non-professional Activity
  (Clerical, Manual, Semi-skilled jobs like, Binding, Filing, Operation and Maintenance of equipments)

There are various 'managerial skills' required for senior positions in a library :

* Professional knowledge
* Subject knowledge
* Managerial ability
* Conceptual skills
* Human skills
* Technical skills
* Problem - solving skills

2.1 Staff Structure/Pattern

2.2 Depending Factors

- The objectives of the library as formulated by the management or parent body.
- The organisational structure i.e. the complete plan of the whole organisation broken into components.
- Quality of service to be achieved.
- Hours during which the service to operate.
- Condition of service of staff.
- Types or users.
- The building in which the library service operates
- Staff formula.

2.3 Induction of Library Staff

It begins just after a person gets his appointment. The information to be sent out immediately coveys a message to the newly appointed personnel containing the basic details he needs before commencing the job. On the first day the new employee should be welcomed formally. Each and every library or information centre may provide 'induction packs' which contain a wide range of information about which the staff should be informed. New staff learn most by working closely with other staff, talking, observing, asking and listening. Early orientation to the public service philosophy of the library can prevent future problems in dealing with users.

2.4 Work Study

Work study helps in formulating manpower norms. Work study constitutes one of the most effective means of raising productivity. Work study employs two distinct but independent groups such as —

- Method Study
- Work Measurement

One of the major techniques of *method study* is preparation of charts for recrding activities in various departments, sections or units of an organisation. It includes operation process chart, flow-process chart and physical movement charts.

Work Measurement is a means of establishing the time required by a qualified worker to carry out a specific job at a set level of performance by the method of measurement. It is also known as *Performance Rating (PR).* It helps to establish performance standards, compare work, relate work to incentive scheme and overall manpower planning. It needs individual capability as well as personal effort to have better performance. There are three techniques involved in such a method

- Time Study
- Motion Study
- Work Sampling

In *Time Study* each job is broken up into its smallest items or elements. The time taken by an individual worker for completing each item, which is called basic time, is measured with the help of stop-watch.

Motion Study is the investigation and the measurement of the movements involved in performance aof any work. It helps in improving the performance, finding out easier and more productive methods of performance.

Work Sampling is employed where large groups of people and machines are involved. Required data are obtained by random observation of delays and elements of work.

2.5 Staff Development

Library administrators, supervisors and the members of the Staf Development Committee (SDC), if any, are responsible for providing opportunities for the overall development of the staff. There are certain basic items which are required in this case :

i) Opportunities to be provided to meet development needs;

ii) Staff members should be informed about of opportunities;

iii) Staff members to be encouraged to take advantage of opportunities provided; and

iv) An atmosphere to be created & maintained in which the development of individual potential can thrive.

Staff Development should be continuous rocess for orientation, training and developing each member of the library organisation. Staff Development activities include :

- Workshops/Seminars etc.
- Academic course work/Refresher courses
- Conference Attendance
- Research Publications
- Orientation to the Work Unit, Library & Organisation
- On the Job Training
- Career Counselling/Planning/Monitoring
- Job Rotation
- Staff Exchange

2.6 Staff Communication

The essence of job satisfaction depends on the communication and motivation processes. A library manager has to consider, evaluate and modify communication processes.

Communication and leadership must function like 'hand in glove'. They must be knitted together. Four different leadership styles which cannot be introduced without proper communication are —

- Directing;
- Coaching;
- Supporting;
- Delegating;

One of the greatest attributes of a successful library manager is the ability to communicate effectively and to pass information to the various channels to make ideas known. There are upwards, downwards, horizontal and external channels of communication in every library and information centre.

A measure of the effective management of *interpersonal communication* is that information is passed and relationships are built. A Technical Assistant in a library may like to develop good relation with a Senior Assistant Librarian, but there is every chance of effecting his relations with fellow workers and even with his immediate superior. This may prevent the Assistant to develop such relationship. Two of the basic differences between people are personality and perception. These differences cause people to behave differently towards others in different situation and cause communication problem.

The lack of understanding between interacting individuals is at the root of interpersonal conflict. Joseph Luft & Harry Ingham studied the situation in terms of knowledge about self & knowledge about the other party in a two person interaction model, which is popularly known as *Johari Window* (Luft, 1961).

Broadly there are two types of communication in a library — (i) Oral & (ii) Written. As far as oral communication is concerned it starts right from the interview of the candidate. At the time of placement also induction or orientation are done most of the time Orally. Library staff are motivated Orally by the library managers and are encouraged from time to time. *Written comunications* include, a *communicating manual* which remind staff of all policies, useful information about the library and its services such as library hours, circulation guidelines, etc. *Job Description Chart* is another form of written communication. It includes, location of the library/department/section, condition of the work, mode of payment, health hazards, if any, posture, speed etc. for performing a particular type of work. The most common forms of *written* instructions include leaflets, cards, notices, memos, letters, handouts etc.

The evaluation sof performance of the Library & Information Centre personnel need *Coaching* and *Counselling*, which are definitely forms of communication process.

3. Facilities &Technological Resource Management

Each and every user in a library and information centre must be provided facilities to do their own searching. It is for this purpose adequate space for individuals to use workstations, managing the flow of users, management of computers & terminals, planning for limits and control, acquiring durable, functional, attractive, comfortable, light and most modern types of furniture and equipments are very much essential in most of the libraries and information centres.

3.1 Location

Location of any library must be convenient for any user of that library. In schools and colleges libraries should be centrally located so as to be easily accessible to the students of all the classes and also to the teachers of the institutions. Most of the research departments must be located around the library. Libraries in most of the metropolitan cities frequently suffer from high levels of external noise — due to heavy traffic, road repairing, multi-storied building construction, proximity of a playground etc.

3.2 Space Planning

Planning for optimum utilization of space in a library is an important and essential task of a library manager. In order to perform this task the development of a functionally effective layout of the library and information centre is very much needed. A library manager has to analyse the services and functions of his library. Such type of analyses will reveal basically three flow patterns, the components of which vary from one library to another. The most common flow patterns are —

i) the *flow of materials*; ii) the *flow of information*; iii) the *flow of users* of the library. According to a scholar, there are six 'work-flows' to determine the functional basis of each activity :

- ♣ Users flow;
- ♣ Material flow;
- ♣ Service flow;
- ♣ Operations flow;
- ♣ Storage flow; and
- ♣ Control and Supervision flow.

Once the nature of physical areas, in which various activities will be carried out, has been determined, their relative location can be ascertained. If the planning has been done according to an adequate systems study, the functional relationship between them will be clear enough which can be translated into a physical arrangement which will result into an effective overall operation.

The total floor space of the library be regarded as being used for four major purposes :

- ♦ Storing documents
- ♦ Reader activities
- ♦ Staff activities
- ♦ Services

3.3 Furniture & Equipment Planning

No library building can justify its existence without proper furniture, fittings and furnishings. They should be appropriate for the building from the point of view of comfort, appearance, harmonious design and function. It is unfortunate that in our country while considerable attention is given to the planning and designing of library buildings, not much attention is given to the planning and design of library furniture and equipment. There are certain factors which may be considered in the planning for library furniture and equipment :

- Collection
- Services
- Manpower
- Qualities or Attributes of Furniture
- Cost

Selections of library furniture and equipment may be done by a team consisting of the *librarian*, the *architect*, the *administrator* of the organisation and *consultant* if and when necessary.

A modern library manager must be familiar enough with the terminals, microcomputers, modems, printers and software to know the available choices and important features for online searching. He must evaluate the additional capabilities or Speedier comunications. Maintenance of equipment must be a continuing concern for any library manager or information professional.

4. Financial Resource Management

The financial management of libraries has mainly two aspects — (i) Budgetary planning and (ii) Accounting. The principal purpose of a budget, as we know, is balancing of estimated revenue and expenditure in order to achieve set goals.

4.1 Budget

The major types of budget are as follows :

(i) ***Line-by-line Budget*** : It has two basic categories of funds. One is (a) *Operating expense* (OE) and th other is (b) the *Capital expense* (CE). The library managers are mainly concerned with Operating expenses.

(ii) ***Physical Quantity Budget*** : In a library it may be the number of information source items.

(iii) ***Capital Expenditure Budget*** : It is directly linked to the short-range and long-range plans. It outlines capital expenditure on land & buildings, machinery and equipment.

(iv) Cash Budget : It shows the financial health of an organisation. The budget reflects the forecast on inflow and outflow of cash receipts and disbursements against actual position at any given time.

Budgets are also classified in the following manner :

- ♣ 'On what' Budget
- ♣ Formula Budget
- ♣ Unit Cost Budget
- ♣ Lump Sum Budget
- ♣ Program Budget
- ♣ Operating Budget
- ♣ Capital Budget

4.11 Budget Formulation

It includes method of financial estimation which can be employed for calculating the annual financial requirements for efficient & effective library service :

- * Per capita method
- * Method of details
- * Method of proportion
- * Programmed budgeting (PPBS)
- * Zero-Base budgeting (ZBB)

Library Statistics can play a vital role in budget formulation as they include the nature and extent of use of the library collection and library service. Library Statistics can form the basis for future predictions. It helps in calculating budgetary figures as accurately as possible.

Library Standards also play useful role in preparatin of budget in libraries. Some of the standards available for use are :

- ♦ Simplified staff formula used in estimating the staff requirement;
- ♦ Standard pertaining to estimation of furniture required;

- Standard pertaining to estimation of space required; and
- Standards concerned wth estimation of the number of documents etc.

These standards, in turn, would be helpful in determining the costs to be incurred in relation to salaries, furniture, documents, buildings etc.

4.2 Accounting

The purpose of accounting is to furnish information about economic health of an organisation. The assessment of a library in terms of cost are shown below :

Input	Process	Sevice	Benefit
(cost)	(cost)	(cost)	(money)

Cost accounting of various library operations is useful for the following purposes :

- Estimating expenditure for each function, service or department and budget formulation
- Comparing cost as a measure of efficiency
- Fixing prices for various library services & information products
- Ensuring utilization of resources
- Controlling operation by studying the cost of input & value of output
- Determining productivity of the staff.

4.3 Cost Effectiveness

This is a measure of performance or effectiveness of a service or activity executed in relation to the costs involved in achieving that effectiveness. Cost accounting systems, MIS, expert judgment, user and use surveys are the main sources of obtaining cost elements and performance data. All these are applicable in the financial management of libraries and information centres.

Abstract : In this paper, the management of resources in modern libraries information centers has been broadly categorized into four groups, namely Knowledge Resource Management (KRM), Human Resource Management (HRM), Facilities and Technological Resource Management (FTRM) and financial Resource Management (FRM) Characteristics and functions of al these types Resources Management have been analysed very specifically.

Libraries and Information Services Over the Ages

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Libraries have been variously termed as : 'people's universities'; 'institutes for a life-long self education'; 'social or socio-cultural memory'; 'store-house of intellectual property'; 'repository of human civilisation'; 'representative of public knowledge'; 'centres for catering information for knowledge and entertainment'; etc. Libraries are one of the oldest socio-cultural agencies that man established. Throughout the ages libraries have proliferated, evolved and changed. We now have different kinds of libraries - National libraries - which attempt at collecting and preserving all types of publications of the country; the public libraries which give free or almost free services to all citizens and form a chain from small rural unit libraries to metropolitan and State libraries, usually under a legislation; academic libraries - the libraries of schools, colleges, universities and other academic institutions and the special libraries attached to research, cultural and other specialized institutions which include the official or government libraries. It is well known that the earliest example of a library known to us was in Ninev, Mesopotemia, which was a collection of written clay tablet documents. But we may also consider the meta-libraries before that, as soon as man invented techniques of drawing and pictogram scribling on stone. And in the 21st century we are going to have virtual libraries, libraries without book or document, libraries with computers which will only be switching centres harnessing information from far off databases through networks.

Libraries have also been named variously as documentation centres,

information centres, referral centres, etc. Indeed archives are also libraries. We can think of phased development in libraries and information technologies in Pre-Printing days, in Post-Printing era, in the Pre-Second World war period, in Post-Second World War period and into the future. These developments are listed below.

1. Libraries before Printing (after the meta-library phase)

(a) Handwritten copies : very few copies of books

(b) Libraries were mostly academic libraries, temple libraries of the religious places and monastaries and Royal or Palace libraries and private collections.

(c) Had only restricted entry

(d) No concept of public library or research library

(e) Chained books or fixed location books, books could not be removed from their locations

(f) No concept of lending or library co-operation

(g) Copies could be made by hand only

(h) Document types included written on parchment, paper, leaves, stone, clay tablets, fabric, wooden planks, metal. Storage depended upon the various shapes and sizes and materials of the documents. There was no standardization of shape, size, binding, storing.

2. After Printing - Phase - I

(a) Multiple copies of books easily available.

(b) Democratization of knowledge

(c) Standard shape of a printed book but not size.

(d) Shelving becomes standard storage system

(e) Document written on paper

3. Post-Printing Phase - II *(Post Renaissance & by Industrial Revolution)*

(a) Proliferation of secular learning and academic libraries

(b) Concept of public libraries

(c) Needs of information for research and development

(d) Publication of Journals or so-called learned periodicals

(e) Development of subject classification especially Decimal Classification — location freedom or concept of relative location in shelving, new arrivals could be placed in suitable places among others already stored documents.

(f) Establishment of research organizations and their libraries

(g) Concept of librarianship or library economy as a profession taking shape

(h) Attempt at universal bibliographies or indexes i.e. lists of all publications

(i) Royal Society Catalogue of Scientific Literature for the 19th century attempted.

4. 20th Century — Pre Second World War Period

(a) Proliferation of special libraries and so-called research libraries

(b) Documents other than books such as maps, albums, grammophone records, films, charts etc. also considered as library resources

(c) Microfilms considered as library storage medium

(d) Photographic copying and microfilming of documents started for preservation and distant delivery

(e) Inter-library co-operation or exchange of documents started

(f) Demand for quick communication and dissemination of information in science and technology grew tremendously

(g) Proliferation of secondary services i.e. bibliographies, abstracting and indexing periodicals; Local bibliography services replaced by global bibliography services

(h) These above changes affected mainly the special libraries and academic (University level) libraries rather than public libraries.

5. Post Second World War Developments

During the second World War the scenario of scientific and technological information production and use changed radically. With the advent of atom bombs and rocketry a keen international competition for having better weapons started. Simulaneously, a fear-psychosis developed about the destiny of civilization. All these prompted for looking into the resources of cultural heritage on the one hand and aspiration for making available

all types of information very quickly overcoming the barriers of geography, politics, language and physical nature of the documents on the other hand. This period is also known as the period of cold war. During the second World War scientific and technological progress was made in different countries with tremendous speed. During the war period exchange of information among different countrties was also severely restricted. The countries became divided in three large blocks : The Western block or the First World Countries led by USA; the Eastern block or the Socialist block or the Second World Countries led by the USSR and the Third World or Developing Countries. There was a tendency of closely guarding the technical informaion among the First and Second World Countries and not to allow the other blocks know about it. There was a keen competition for gaining economic and informational control by each block and this led to the cold war. Simultaneously, however, there was a growing awareness about gaining access to information. There were attempts at processing and reprocessing of the huge amount of scientific and technical information generated during the Second World War, utilizing the technologies developed during the war.

Information explosion in its true sense started from this period. So there was an urge for preserving information and knowing what information are generated throughout the world. Information processing started with changed outlook when in 1948 in a meeting of the Royal Society of London J. D. Bernal urged the information professionals and librarians to take up the responsibilities for making scientific and technological information available for all. Even during the war years attempts were started for mechanising the processess of indexing, abstracting, translation, copying and delivering of documents. Computers were in early stage of development and were not suitable for many of such tasks. However, a number of developments occurred. New thoughts in classification research started to generate special classification schemes of subjects. Varieties of key word indexing such as KWIC, Permuterm etc. were invented. With the refinement of electrocopying or xeroxing, concepts of document copying and document delivery were revolutionized. Bernal gave a conceptual boosting, S.R.Ranganathan of India put traditional librarianship to a new level, Americans V. Bush, H. P. Luhn and others provided the first steps to technical infrastructural support, Mikhailov and other Russians showed through VINITI (the Soviet National Documentation Centre) what informational management could do.

6. Post Second World War Period (Late 40's & 50's & 60's incorporating CT's)

(a) Research and development on classification and indexing both theoretical and application (mostly influenced by the work of Ranganathan). Development of Special Classification Schemes.

(b) R&D on vocabulary control : Information Retrieval (IR) Thesauri start appearing : doing concept mapping

(c) Citation indexing launched in 1964 in USA

(d) Efforts in mechanizing indexing and abstracting started

(e) Efforts in MT (machine translation) failed

(f) Concepts of cataloguing in print or in publication and classification in publication realised

(g) Concepts of current awareness service and selective dissemination of information mooted and popularized

(h) Punched cards used for some of the library work and information services

(i) Photocopying and microform services proliferatd

(j) A number of national bibliographies (including British National Bibliography or BNB, Indian National Bibliography or INB) started appearing

(k) Regional abstracting sevices attempted e.g. Indian Science Abstracts

(l) Cover to cover translation of S&T journals (mainly by the Americans from non-Englihs to English) started.

(m) Continued proliferation in research and special libraries

(n) First generation and second generation of digital computers developed but mainly used for numerical data crunching and S&T research

(o) Microwave communication and first generation of communication satellites developed

(p) The concept of documentation and documentation centres popularized among library professionals

(q) Special libraries associations formed throughout the world and activised

(r) Increasing use of electronic communication media by the librarians (e.g. telephone, telex, etc)

(s) Attempts for uniformity and standardization in cataloguing at least for English language documents with the result of Anglo-American Cataloguing Rules (AACR) in 1967

7. Developments in 70's & 80's

(a) Researches in classification declined. Not much emphasis on special classification schemes. Broad System of Ordering (BSO) developed but not much popularized. Medium edition of UDC and 7th edition of Colon Classification published

(b) International Standard Book Description, Serial Numbers and Book Numbers (ISBD, ISSN, ISBN) introduced and incorporated in cataloguing, concept of CCF (Common Cataloguing Format) emerged

(c) Machine readable cataloguing (MARC) realized

(d) During 80's online public access catalogues (OPAC) developed

(e) 3rd, 4th and 4 & 1/2 generation computers developed. Personal computers or PC's became very powerful, versatile, cheap and common

(f) Very high level programming language and menu-driven softwares developed. Computers became user friendly

(g) Revolutionary changes in computer storage media both internal and external. CD-ROM's produced to store gigabytes (10^9 bytes)

(h) Word processing, cold composing and versatile and very powerful DTP or pre-press softwares developed

(i) Bibliographic databases in machine readable form started appearing in the 60's and early 70's. Many of the secondary services throughout the world became available on floppies or online or on CD-ROM in the 80's

(j) The concept of library co-operation and resource sharing experienced a sea-change due to developments in Networking, computer and communication technologies

(k) Library networking fully realized through local, regional, national and international networks

(l) Super network or the network of networks (INTERNET) became operational

(m) IT's and CT's got hand in hand. E-mail, Fax etc developed

(n) Xeroxing developed tremendously and became a part of any library making document delivery cheap and functional

(o) (i) In the late 60's and early 70's a few library operations were experimentally mechanized such as MARC, Billing, Ordering, Acquisition; (ii) In the late 70's and early 80's the concept of library automation gained ground; (iii) In the mid 80's the concept of electronic library came into being

(p) Database vendors, information consultants, knowledge brokers emerged as self-employed professionals

(q) Researches in fundamentals of Information Retrieval and information mechanism proliferated

(r) Studies in quantitative aspects of informational process and on bibliographic records got very popular in the names of bibliometrics and then as informetrics.

8. 1990's

(a) Most of the matters of the 80's continue to grow

(b) PC-Pentium series and parallel processing put to use

(c) Access -vs- asset debate

(d) Concepts of Multimedia and Hypermedia

(e) Electronic publishing and eletronic journals gain ground

(f) Concept of Information Super-Highway (ISH)

(g) Concept of virtual libraries

(h) Growth in full text databases

(i) Application of artificial intelligence (AI) to library operations and information processing

9. Into the 21st Century

(a) Very difficult to predict, but developments of the 1990's will go on taking shapes.

SUMMARY

0. Meta-library phase	Drawing and writing on stone/cave walls	Immovable sites
1. Pre-printing Phase	Manuscript Book	Stored document and chained book library
2. Post printing, post renaissance phase	Mainly traditional printed documents (Books/Periodicals)	Print media library
3. 20th century till World War II	No automation or very little; print and non print resources are kept side by side	Multi-dimentional multiple resource library
4. 60's, 70's and 80's of 20th century	Mostly traditional resources and some electronic resources but library operation is gradually computerised.	Library automation or automated library
5. 80's and 90's of 20th century	Most resources are electronically accessed.	Electronic library - xerox; Fax, e-Mail, Scanning.
6. 21st century	No resource at all in principle	Virtual library

Abstract : The article presents the developmental history starting from meta-library phase to virtual library and the types of services rendered by Library and Information Centres over these phases.

Totopara Rural Library and Its Users With a Special Reference to Totos in Jalpaiguri District, West Bengal

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Introduction

In Jalpaiguri district there are 110 public libraries ; 1 district library, 10 town libraries and 99 rural libraries. Out of 99 rural libraries aTotopara rural library (TRL) is one of them. IN all the libraries of the district the Government Grants which come from the Directorate of Library Services, Government of West Bengal, is distributed through the Office of the District Library Officer (DLO), Jalpaiguri. The amount of grant varies from year to year and it is found from the office records of DLO Jalpaiguri that Totopara Rural Library does not get any special privilege of Government grants.

Origin and Development

This Rural Library was established in the beginning of the year 1982 at Totopara and was recognised on 2.5.1982, while initially it was run by a Cycle Peon and the post of the Librarian remained vacant. The post of the Librarian was filled up after one year.

The names of the Librarian and the Cycle Peon are Muktaram Toto and Bimal Toto respectively. Both of them do not pass the Secondary Examination. Besides, the Librarian Muktaram Toto has no formal professional training like the Certificate Course in Librarianship, which is a minimum requirement. Hence, the annual increment of Muktaram was stopped after one year of his service. Muktaram basically is an intelligent Toto youth and was sent to Rahara Ramkrishna Mission for a training in the Certificte Course of Librarianship,

but he did not complete the course.

The Cycle Peon gets a higher salary than the Librarian due to ;his regular annual increments as per his service condition. In 1997 the gross monthly salaries of the Librarian and the Cycle Peon were Rs.2865 and Rs.2929 respectively. Both of them receive their salaries from the SBI, Birpara Branch through cheques issued by DLO. Though officially the library is to be kept open from 11 A.M. to 5 P.M. but in practice, the library remains open only for a few hours and there is a great deal of regular irregularities in the attendance of the Library Staff.

Initially the number of reders was 31 and at present it is 53. According to the library records after 1991-92 there are no new members. It is observed that no sincere efforts were given to increase the library membership among the Totos. Out of the present 53 members only 17 are Totos.

Initially the library was started at Panchayatgaon, the heart of Totopara, and very close to Jiten Toto's house. Sri Jiten Tota is a prominent person among the Totos. A number of playing kits were preserved by the library. Those kits are meant as a medium between the people and the God/Goddess. Those kits are damaged at present. Later, the library shifted to Mondalgaon and is situated between the bunglow of the Integrated Tribal Development Project and the Office of Tribal Welfare Centre, Government of West Bengal.

The library building consists of three rooms : one reading room, one office room and stack room (at present fully vacant). All reading materials are kept in the reading room. The sizes of the reading room, office room ad the stack room are 120 sq.ft., 30 sq.ft. and 64 sq.ft. respectively. Besides there are two verandahs measuring 32 sq.ft. and 24 sq.ft. in size.

In the beginning, the present library building was under the possession of ITDP, SC & ST Welfare, Govt. of West Bengal. In the middle of 80's the possession of the building was transferred to the library. However, no official record of transfer was found.

Annual Report of the Library is not found prepared and there is no audited statement of accounts made by the auditor. Membership fee is 50 paise per month but it is an almost impossible task to collect that. The admission fee is Rs.2 per member.

The Library Committee consists of 8 members. The Secretary is Haren

Saibya and after the death of the President Rabi toto, now G. P. Sharma, one of the members of the Library Committee is officiating as the Chairman. The other members of the Library Committee are — Rabin Toto, Lakshmikanta Toto, Jiten Toto, Muktaram Toto and Bimal Toto. There is one vacancy in the Library Committee.

Though most of the houses in Totopara have electricities, but the Library has no such facility. When asked about the installation of electrical appliances to the Secretary of the Library, the answer was negative.

The furniture of the library consist of 1 book shelf, 1 almirah for the office records, 2 tables (1 for office purpose and the other for reading purpose in the reading room), 6 chairs and 2 benches.

There are 8 register books for keeping different records of the library viz. 1 accession register, 1 meeting book, 1 for membership registration, 1 for recording the receipts of letters, 1 for the despatch of letters, 1 book issue register, 1 pay register and 1 cash register.

The library subscribes only 'Aajkaal', a Bengali daily. At present there is no magazine in the library. 'Aranyadev', a comics was subscribed 4 years ago.

During the financial year 1996-97, a large number of books were purchased. After accessioning of the all the new books, the total number of books and other reading materials in the collection of the library amount to 2093, of which the most are Bengali books. But books in Bengali language are no use to them for they know Nepali language better than Bengali. Traditionally they are more accustomed with the Nepali culture than Bengali.

Library Consciousness of the Totos

Totopara Rural Library which has been depicted above does not attract the Toto people in most cases. During survey when the following questions were asked to the respondents on several aspects of the library such as location of the library, new membership procedure, what types of books and magazines are found in the library, whether newspapers and other materials are available at the library, duration of library hours, satisfaction with the service rendered by the library staff, the power and position of library committees, then a very poor percentage of population responded.

Leisure Time Utilized by the Library Members of the Toto Community

A survey was made on the Toto users of the Totopara Rural Library. They

were asked about the utilization of their leisure time. Moreover their personal opinions were sought for the development of the library. The types of Toto library users include — government employees, bank employees, school teachers, students, traders and cultivators. The Totos who are working in the government offices or banks are not getting sufficient time to avail the library facilities regularly. These type of users are mainly enjoying leisure time by hearing radio or by watching TV or by meeting among the community members. sBut some of them are interested to be enriched in their educational sphere. They like to go to the library regularly to spend their leisure time and read the different types of reading materials for the enrichment of their knowledge. Other members who do not want to go to library regularly are busy with their family members. The students who intend to avail the library facilities are not members in the true sense of the term. Due to friendly attitude of the library staff to this non-member user group they an read and use the library materials. The student members who stay outside of Totopara for their education use the library at an irregular interval.

The users' opinion in respect of the library is that — the library lacks inrastructural facilities like light, fan, chair etc. Besides Bengali books, books of other languages (such as Toto, Nepali, Hindi) are to be kept in the library. A museum consisting of objects depicting the traditional culture of the Totos should be established in the library premises. Various indoor playing kits are to be kept in the library to attract young people to the library. TV and radio sets are essential for recreational, educational and informational purposes of the users. The users of the library are more interested in audio-visual materials than the reading materials to fruitfully utilize their leisure time by learning some thing and enjoying simultaneously.

Observation

Implementation of a well planned network of community information system is necessary in Totopara as a part of developmental efforts and the existing library system should be reoriented to perform as a community information centre along with its normal library services to its users. The information centre thus would be the nerve centre of the entire community. It may be an integral part of the existing library service or might function as a separate entity. The information centre would keep various booklets, brochures, posters, pamphlets etc. on developmental programmes of the Government and on the benefits of developmental programmes for the Totos could only reach to them, only when there are no middle men misappropriating the fund meant

for the Totos and this is only possible if the Totos are well-informed of the procedure of receiving the benefits under those programmes.

There should be an attempt to develop Toto script. Like 'Alchiki' of the Santals, the Toto script should be developed in such a way that all the Totos can learn and use it conveniently without any reservation.

The use of Toto language is to be encouraged within the community. The degree of desire for information seeking is directly related to the level of development of own language. Information in their own language on print media would thus directly be helpful medium to acquire knowledge and skills.

The Government has taken the initiative to educate this tribal community. The information centre may participate in the International Literacy Campaign programme to inculcate reading habits among the Totos and develop services aimed at serving neo-literates of the community with suitable literature in Nepali and Toto languages and prevent them from falling back to illiteracy and organise adult education classes for illiterates.

The proposed information centre should have an audio-visual unit as its integral part. The information on modern life would reach those people who are averse to reading may be allured to visual projections.

As the existing library personnel are not trained in handling audio-visual kits, there should be an arrangement of technical training for them for this purpose. Alternatively a purely technical hand should be inducted to handle the kits and explain the contents of the programme orally to the people, if necessary.

In the rural areas of West Bengal, the Zilla Parishad, the Panchayat Samities and sthe Gram Panchayats are now playing key role to upkeep the socio-economic life of the people. The educational system including libraries have now become under the administrative jurisdiction of the Panchayat system. As an integral part of education, the panchayat members should encourage the Toto people to come in touch with this information centre.

The information centre would also undertake cultural programmes like folk dance, folk song, and folk tales, puppet show of their own culture and traditional varieties so that information may thus be provided in their traditional arts and culture. The sister communities of the area like Meches and Rabhas are maintaining their traditional art and culture and a number of cultural troops

Distribution of Persons Requiring Information on Totopara Rural Library

Age Group	18 - 27		28 - 37		38 - 47		48 - 57		58 - 67		68 - above			
Sex	M	F	M	F	M	F	M	F	M	F	M	F	Total	Percentage
Membership	20	12	10	6	-	-	-	-	-	-	-	-	49	10.99
Books & Magazines	16	8	10	6	1	-	-	-	-	-	-	-	41	9.11
Newspaper	4	4	-	-	1	-	-	-	-	-	-	-	9	2.00
Other materials	18	7	8	5	1	-	-	-	-	-	-	-	39	8.66
Library hours	18	8	10	6	1	-	-	-	-	-	-	-	43	9.55
Nature of service	20	6	10	5	1	-	-	-	-	-	-	-	42	9.33
Library Committee	4	2	4	1	1	-	-	-	-	-	-	-	12	2.66

(Figures in the percentage column indicate percentage to total adult population)

From the Table it is revealed that 10.88, 9.11, 2.00 and 8.66 percent of population require information on membership procedure of the library, nature of books and magazines available in the library, availability of newspapers and the other materials of the library respectively. 9.55, 9.33 and 2.66 percent population require information about the duration of library hours, nature of library service and the nature of the composition of the library committee respectively.

Distribution of Persons Requiring Information on Totopara Rural Library

Age Group	18 - 27		28 - 37		38 - 47		48 - 57		58 - 67		68 - above			
Sex	M	F	M	F	M	F	M	F	M	F	M	F	Total	Percentage
Location	110	88	60	44	28	10	12	6	0	0	0	0	358	79.55
Membership	16	10	8	2	1	-	-	-	-	-	-	-	37	8.22
Books & Magazines	16	10	8	2	1	-	-	-	-	-	-	-	37	8.22
Newspaper	14	4	6	1	1	-	-	-	-	-	-	-	26	5.77
Other materials	16	10	8	2	1	-	-	-	-	-	-	-	37	8.22
Duration of library hours	8	4	8	2	1	-	-	-	-	-	-	-	23	5.11
Nature of library service	10	4	6	2	1	-	-	-	-	-	-	-	23	5.11
Library Committee	8	3	4	2	1	-	-	-	-	-	-	-	18	4.00

(Figures in the percentage column indicate percentage to total adult population)

As per table it is revealed that 79.55 percent population have the information on the location of the library, 8.22 percent population are conscious about the membership procedure, number of books, magazines and other reading materials available in the library. 5.77 percent population have the information about the availability of newspapers in the library, 5.11 percent population know the duration of library hours and nature of library services provided and 4 percent population are informed about the composition of the library committee.

have been organised by themselves to perform art and culture respectively as a mark of their own identity. It is natural that Totos should be attracted to such venture and cultural troops may be organised by themselves.

The information centre should also maintain a sort of directory containing their names and other details including their present occupation as a feed back to the Government offices for developmental initiatives.

A museum within the proposed centre should be established to decipher information on their own history and culture.

The centre should also provide a political map of the country with distinct location of their own habitation which would make them aware of the location of cities and state capitals. It would also imbibe a spirit of national integration.

A tele-communication network should be founded for interaction with outside community at a minimum cost.

The surface transport as a mode of communication should be extended. The roads should be developed in such a way that hand driven carts, rickshaws, vans and such other vehicles may properly move through them, if required.

In Totopara there is potentiality of tourism and hotel industries, resulting in the extension of employment of local people. This will help flourish the economy of the Totos and increase their interaction with the outside world and modern culture. Besides tourism and hotel industry, the Government and Non-Government Organisations should be encouraged to undertake various projects for the socio-economic improvement of the Toto community. In this connection establishment of agro-industry small scale and cottage industry in Totopara may be thought of. Training for better orange cultivation may be given first priority, since increase in the production of oranges will influence the economic development of the growers. Besides trading, fruit processing and other related industries will receive some impetus. Development of bee-keeping centres, is another easier means of increasing the source of income of the Totos.

A study centre, under the Tribal Welfare Department or Youth Services Department or in their collaboration may be established to keep a close watch on the Toto community in the context of their attitude, needs, interaction with external world, gradual trends, developments, change in the family and community bonds and set-ups and the like for the creation of database or

source of an accurate and dependable information, for ascertaining the right and necessary steps by the Government or any other Agency, interested in the well-being to Toto community and their all-round development.

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CHAKRABARTI (Biplab) and BASU (Asok). Information needs of the Totos : a sub-Himalayan Tribal Community. *Iaslic Bulletin*. 44,4; 1999; 177-188.

Abstract : In this work a description about Totopara Rural Library has been narrated by the authors. The behavioural pattern of the Totos in using the library and in spending leisure time has been depicted in this study.

Management of Information to Support Biodiversity

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1. Introduction

As the human population is growing at a rapid pace, and the society is moving from an agrarian to an industrial and the information society, the world's biodiversity is being lost at an alarming rate. This is a very potential and irreplaceable loss which can never be substituted at any cost. The importance of conserving and managing the biological wealth of this planet, as a foundation for sustainable development, is now slowly being understood among scientists throughout society in many parts of the world. The local communities, national, regional, and international forums, together with the commercial and corporate sectors have taken the initiatives to conserve and use continuously the earth's living natural resources. A number of internatonal treaties, aimed at the conservation of biodiversity, have also grown. Though a large number of data are available, yet no guide is available, and so this is often coherent and discordant. Added to this is that, often the quality is not known. Therefore a common language, which is procurable and approachable was urgently needed. The need for a common system for exchanging and managing information was felt.

In 1995, the International World Conservation Union (IUCN) invited representatives to discuss all these problems. The result was the emergence of the Biodiversity Conservation Information System (BCIS). But slowly it was felt by the nations that for bridging the knowledge of biodiversity related data management issues around the world and for making the Biodiversity Conservation Information System an effective and a successful one, they have

their wider regional and global responsibilities, as well as the need to manage their own environments sustainably. So there is an ugent need today to ensure that the pertinent information is generated or presented in such a way as to facilitate decisions and influence the way they are made. This again requires a great importance to be given to the management of information from collection, through storage to extraction, presentation and distribution.

2. Objectives of Biodiversity Conservation

There are three major objectives as per convention on Biodiversity, viz., conservation of biodiver-sity, the sustainable utilisation of biological resources, and equitable share of benefits. The attain-ments of the first two objectives calls for intensive application of knowledge and skills; but the third objective can best be realised through local institutional development based on people's participation. It is obviously the local people who can really help if they are properly motivated. There is growing realization of the need to motivate people in the management of natural resources; and this means proper management of information too to support biodiversity conservation.

3. Assessing Information Needs for Biodiversity Conservation

Biodiversity development consists of three basic and overlapping steps — save it, know it, and use it. We can transform this motto into assessing the information needs — save or store the information for sustainable use, know the information properly to be familiar with it; and use the information for its quite valid activity of assisting in conservation. Information acquisition, management, analysis, and presentation are key factors in proper conservation of biodiversity, and in the development of the used - user relationship in the context of non-damaging sustainable use of biodiversity.

For assessing information needs, a biodiversity inventory is needed. This is the act of preparing a set of biodiversity for use, rather than making a list of the objects. Following it, is a second part, i.e. a large of biodiversity information needs generated by array market development and industry, of biodiversity use.

No country has a comprehensive species list for any of the species rich groups. The need for proper documentation is the need of the hour. The sources of the data which are available fall mainly into five groups :

(i) *Nomenclators :*

The names of organisers described as new to science are compiled into

series of printed catalogues, with additions being included in updates. Such catalogues also cite the countries of origin of collections. Such catalogues cover literature since binomial nomenclature came into effect (e.g. 1753 for 'botanical' and 1758 for 'zoological' groups). Nomenclators enable new species names based on material from a particular country to be ascertained. This is of specially interest for conservation purposes, because some of these may be endemic.

(ii) *Checklists :*

These are complementary tools. Checklists draw together names of organisers reported from a territory and provide the starting point for more detailed studies.

(iii) *Reference Collections :*

Specimen preserved in reference collections within and without a country are the source of accuracy of reports of particular species in that country. Label data can include information pertinent to host range, econology, status, utility or damage caused.

(iv) *Unpublished Reports :*

Unpublished reports like field note books, personal letters, theses, reports to crop protection or conservation agencies can be sources of additional data.

(v) *Indigenous Knowledge :*

Often we have no records of practices sof many indigenous methods by people developed by trial and error over many countries. Lack of proper documentation for valuable sources of medicine or food is a loss which can't be substituted.

So the management of information is a primary concern in the area of biodiversity conservation, using the above sources of data.

4. Management of Information

In order to manage the information obtained from the above mentioned sources of data properly, some principles should be followed. The environmental data, as is the case with data in other fields also, has to be organized in a way so as to facilitate its' conversion into useable information. Not only this, the data obtained is to be stored and managed in its' primary form, enhancing its' simple method in communication and interpretation. Everyone

has to have access to use the data properly and has a right to be informed. Information obtained must provide a common basis of agreed facts; discourage options or decisions with adverse consequences; should provide a range of options; should be available to the decision makers at all levels, and when and where they need it in a form which is to be readily understood and easily communicated.

To identify the collections, user-friendly printed and electronic keys (e.g. CABIKEY) are helpful in case of problematic issues. In order to maximize the benefit from data collection, it has to be captured in a form which will facilitate data exchange using modern technology. International Union of Biological Sciences (IUBS) Commission on Taxonomic Databases have developed an international standard, including data exchange formats. Biosystematic data of all kinds arising from inventory programmes are then to be incorporated into national databases. To build up a strategic system for the better management of information a number of steps should be followed. The information needs of the stakeholders that influence decisions at the national, regional, or local level should be determined. The process of ensuring that user needs have been assessed properly, should be seen. That any developing system will meet those user needs must also be met with and this must itself be carefully managed; and this will be best achieved by a Steering Committee. When user needs have been determined, then the need to allocate and manage custodianship of major subject themes have to be followed. Custodianship is not a simple thing. It means building and maintaining priority datasets, and making them available to the networks. This process is important, as it identifies any need for building additional capacities. Another important thing is to identify whether those databases exist; if so, who are the owners; what their characteristics are; and in what form they are in. If the datasets are non-existent, or are not adequate, then it is necessary to identify appropriate custodians and make sure that the necessary data are elevated to the required standards. Decision makers should then act on information, and require data to be assessed for quality and relevance, then they should integrate it. After this process, the data should be analysed and interpreted. This whole process of transforming data into information requires access to a wide range of data management.

With the modern available tools and a rapid development of information technology, it is now possible to build comprehensive, integrated biological diversity information system on networks It is quite in the fitness of things to mention the steps taken by some countries, to manage their information on

biodiversity conservation. The Environment Research Information Network of Australia, National Biodiversity Institute of Costa Rica, Finnish Biodiversity Information Network of Finland, Canadian Biodiversity Information Network are some of the pioneering institutes which are paving the pathway for proper management of information and thus devising a successful information system for biodiversity conservation.

5. Conclusions

Though much work has been done in building up a comprehensive and compact data system on biodiversity conservation, yet a lot of unrealised work lies ahead. Adequate computing power, with links to World Wide Web (WWW) and other national and international networks, and such datasets as are available on CD-ROM, are crucial to maximize the output from inventories. The information resulting from inventory studies is to be made accessible to the widest possible audience. We also need the users, particularly decision makers, to tell us what information they require. This information had to be backed up by documents, maps and expert opinion. Thousands of datasets are being built and maintained by custodians at local, national and global levels. Through the meta-database systems operating on networks, users may find out about them. For the better management of infomation for conservation of biodiversity, the active participation of all custodians, stake-holders, key agencies, international unions is needed. Without this, key information will not be available to support rational decision and so proper management of information will not be realised.

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Abstract : The author describes the importance of conserving and managing the biological wealth of this planet, as a foundation for sustainable development.

Bio-Centres of M S Swaminathan Research Foundation

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1. Introduction

Starting with a modest grant from IDRC, Canada the M S Swaminathan Research Foundation in Chennai, India, is carrying out a set of imaginative experiments in electronic knowledge delivery with a view to exploring the impact of modern Information and Communication Technologies on rural development since 1997.

Swaminathan and his colleagues chose a cluster of villages and hamlets near Pondicherry about 160 km. south of Chennai on the Coromandel coast. Half the population in these villages has total family income of less than $ 25/- per month.

M S Swaminathan Research Foundation(MSSRF), has taken various projects for human centred development, where the health and happiness of rural families is the goal. The projects are called *Bio-village projects*. MSSRF encourage setting up of Bio-Centres which are to be operated by the Bio-village societies. All the Women Groups, Village Development Councils and Farmer Groups in the Bio villages will collectively form the Bio-village Society. The project is designed to provide knowledge on demand to meet local needs using a mix of wired and wireless techanologies and through a local Website.

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* Student, MLIS, 1998 - 2000

2. Objectives of Bio-village Projects

The objective of Bio-village projects required a pro-nature and pro-women orientation to a job-led economic growth strategy. The methods used to achieve the objectives are knowledge, skill, information and organisation empowerment of rural families with priority being accorded to Eco-technologies, based on a blend of traditional wisdom and frontier technologies such as Bio-informatics, space, renewable energy and communication technologies. The Bio-village community will thus become ecological enterpreneurs.

3. Programme of Activities of the Project

The declared programme of activities of a Bio-centre are quite varied. It attempts at providing infrastructure essential for training, networking and capacity building. It confers on small scale producers the power of strategic marketing; serves as a meeting place for the exchange of experiences and ideas, provides the necessary production and market information and enables efficient decentralised production through the provision of key centralised services.

4. Area of Study

During April, 2000 a study was undertaken by the MLIS students 1998-2000 session of the Dept. of LIS of Calcutta University on the activities of the Bio-centre of Bio-village projects at Pondicherry as part of their educational excursion..

As the main objective of Bio-village project is knowledge database for sustainable food security, so for the fulfilment of designing the knowledge system the project set up Bio-centres at Villianur, Kizhur, Embalem, Pillayarkuppam,Veerampattinam, Pooranmkuppam villages. Villanur is the Hub centre as this centre is project's local Head Quarter. Villianur village is located at about 15 Km. from Pondicherry town. And this Bio-centre is located near the bus stand of Villianur and opposite of Villianur Police Station. All the Bio-centres have been established during the year 1998 and the locations are different in nature according to the availability of accommodation, users' demands and participations of people for voluntary service. As for example, Kizhur Bio-centre is located in the front room of a private house whereas Embalem Bio-centre is located in the village temple and is managed by middle aged women volunteers, Veerampattinam and Pooranmkuppam Bio-centres are situated in the coastal region and established on demand from the local fisherman community and such centres are managed by the local panchyat-the elected body of local self government.

5. Information Services Provided by Bio-centres

Bio-village project through Bio-centres are mainly involved in providing information to rural people in different sectors which is of permanent nature, namely —

i) Govt. Sector Information :

Information covered under this sector is clllected from State and Central Govt. agencies. They include 180 schemes of Govt., employment news, Government circulars, notification, announcements, etc

ii) Educational Sector :

Information regarding the name of the schools, colleges, admission criteria of students, percentage of reservation of different categories,. communication address.

iii) Agriculture Sector :

Information or advice on growing crops and protecting them from diseases, market prices for these crops, local weather forecasts and information about the many programs run by the Govt. and other agencies.

iv) Health Sector :

Information regarding health centres such as primary health centres, hospitals and other health centres, their names and communication addresses (Particularly women's health information).

v) General Sector :

Information regarding price variety of essential commodities such as for different rice varieties. Information about bus timing, daily wage rate, price of postage and telegrams, etc.

Other than these permanent news information, a centre also provides daily news like Weather report/forecast, wave height map, market price of gold and silver, vegetables price lists, farmers' markets, regulated market price of pesticides, price of fertilizers, availability of fertilizers, availability of different type of seeds, actual rates per kg. of seeds, subsidised price rates of seeds.

6. Information Workforce

Bio-centres are run by the local youth volunteers (both male and female). In order to give information to community people and farm families, timely

information on meteorological management and marketing facts are provided. In each village centre there are two volunteers, one male and another female. Actually volunteers act as intermediaries to the rural people. Volunteers collect information through their own computer network and at the same time feed back with their own telephone network system. At the Hub centre software professional and computer oprators are inputting data and information which is collected by four expert volunteers. Expert volunteers are engaged in collecting information from Govt. and non-Govt. organisations. They also collect daily news from local, national and international level. Vijaya Poornai is the computer programmer. She is the chief incharge of information centre. The centre is called as Information Village. Most of the system operators and volunteers in the information village project are women. Thus the project enhances the status and importance of women. While five years after the Beijing Conference, there has not been any improvement in the status of women the World over, we notice considerable improvement in the self esteem in the women volunteers taking part in the project.

7. Hardware & Software

Villanur is an administrative node and main hub of the information and communication network. It is where knowledge database exists and where from information is provided to sub-centres. It works as a added centre equipped with list of peripherals and equipments for effective communication of information.

The following are list of peripherals and equipments used by the hub i.e. administrative node.

A. System Configuration

Pentium II is a super scalar cpu with approximately 7.5 million transistors. First generation pentium II processor coded named "klamath" were manufacture using wafers 0.35 microns, they support clock rates of 233, 266, 300, and 333 mhz with an internal bus speed of 66 mhz. Every type of pentium II processors features multimedia extensions (MMX), integrated label 1 and label 2 cache controllers, dynamic execution and dual independent bus architecture. Each operates with a 64-bit system bus and separate 64 bit cache bus.

Window 98

Release in 1998, the version of the microsoft windows operating system for IBM - Compatible computer that superseded windows 95. But incorporates

numerous repairs and upgrades to the system which enables files on a hard disk to be stored in a smaller blocks. The internet explorer browser is tightly integrated with this operating system.

B. Modem

A devise use to connect to the internet over a telephone line. Computer works only digitized information whereas a telephone line carries analog information so in order to make a computer communicate with other computer in a telephone line, a device which convert the digitized information to analog form and vice-versa is required. This device is called modem (Modulator/ demodulator). The data transmission rate on the internet depend on the number of bits a modern transmit per second. But as the modem, translate the signals into carrier language. It is necessary to have translator that speak same language on the other end. Considering the rapidly changing technology for modem, most modems operate like 9600, 14,000, 28,800 bits per seconds. The information village centre use 14.4 kbps modem.

C. Telephone

D. A small telephone exchange (EPABX) with network facility.

E. Wireless communication equipment (Motorala Walkie-Talkie).

F. Printer (Inkjet).

G. Fax machine.

H. Transmitter and receiver.

I. Rechargeable Battery.

J. UPS (Uninterruptible Power Supply).

K. Solar cell.

L. Software used

Each village sub centre also uses pcs with necessary software, telephone, solar power, bulletine board, etc. Using all these advanced technology the villagers get value added local pacific information in a wide range of fields : health care, transport, market subsidy, entitlement and so on. Particularly popular women held information — often not discussed in traditional societies — advise on growing crops and protecting them from diseases, market price for this corps, loacal weather forecasts and clear information about the many programmes run by the govt. and agencies. Much of the information is

keyed in Tamil, local language. Incidentally the villagers can use the PCs at Villianur and sub-centre to transmit date and facts massages in Tamil. Some key information such as the days price for rice varities and changes in bus timings and important announcement are written on a display board at all centres.

8. Conclusion

The activities of Bio-centres have been designed for those who are bereft of getting the advantages of the normal life of the society. In the midst of increasing feminisation of poverty and the existence of class-struggle between the haves and have nots the Bio-village model may be a pathway to human centred rural development resulting in the co-existence of unsustainable life styles and abject poverty and deprivation.

9. Acknowledgement

Helps we received from Vijaye Poornai and her two assistants of Information Village Centre are gratefully acknowledged here.

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Abstract : The experiments of the Bio-village project of M S Swaminathan Research Foundation through its information village centre at Pondicherry(India) for the upliftment of rural community in the region have been discussed in this study.

Calcutta University Journal of Information Studies (CUJIS). (Publication of the Department of Library & Information Science, University of Calcutta, Asutosh Building, College Street, Calcutta-73, India) No. 1, 1998-99.

Abstracts of Articles

1.

Smriticharan *(Reminescences)* **by Pramil Chandra Basu. p.3-12** [*in Bengali*].

Basu recalls his memories of different events and experiences during the period 1935-55, when he was attached with the Calcutta University Central Library.

(The article has been compiled from the extracts of the author's Reminescences, published serially in ***Granthagar*** (Bengali monthly) published by Bengal Library Association, Calcutta).

Late P. C. Basu was Librarian, University of Calcutta, and a teacher in the Department of Library Science, University of Calcutta, College Street, Calcutta 700 073.

2.

Pustak Path O Pather Uddesya *(Reading of books and purpose of book reading)* **by Raj Kumar Mukhopadhyay. p.13-18** [*in Bengali*].

Author explains different approaches and purposes of reading. He stresses that reading needs to be active or involved and not passive. Purpose of the reading is to know self, know the society, and be aware of an individual's existence in society.

Raj Kumar Mukhopadhyay is a former teacher (Part time) in the Department of Library Science, University of Calcutta, College Street, Calcutta 700 073.

3.

Department of Library Science : 1945-1975 (A synopsis with related incidences) by Subodh Kumar Mookerjee. p. 19-24 [*in English*].

This article traces the first Librarianship Diploma started in 1935 in the Imperial Library (now the National Library of India) in Calcutta. Mookerjee

remembers his experiences of the Department of Library Science and relates how it had changed with the advancement of Science & Technology.

Late Subodh Kumar Mookerjee was a Reader and Head of the Department of Library Science, University of Calcutta, College Street, Calcutta 700 073.

4.

Education for Librarianship and the Department of Library Science by Tarun Kumar Mitra. p. 29-39 [*in English*].

The paper points to the fact that theoretical contents of the discipline are still poor; what are being offered as theories are in fact accounts of the practical, and probably is one of the major reasons why till date there is no universal agreement about the nomenclature of the discipline.

(Reprinted with modifications from the **Golden Jubilee Celebration Souvenir** of Department of Library Science, University of Calcutta).

Tarun Kumar Mitra was Reader and Head of the Department of Library Science, University of Calcutta, College Street, Calcutta 700 073.

5.

Computer Application to Library and Information Science by Piyush Kanti Mahapatra. p. 40-46 [*in Bengali*].

The paper explains how the concept of Library & Information Science has been changed during the last few decades by application of computers to the library and information systems by minimizing the problems of selection, acquisition, organization and service in the Libraries and Information Centres to a large extent.

P K Mahapatra is a former Reader and Head of the Department of Library Science, University of Calcutta, College Street, Calcutta 700 073.

6.

Subarna Jayanti Smarak Baktrita (Golden Jubilee Celebration Speech) by Prabir Roychowdhuri. p. 47-51 [*In Bengali*].

Roychowdhuri relates his memories and his ideas of librarianship and suggests a number of lines of action on the education for the librarianship and information science to be taken up particularly by the Department of Library & Information Science, University of Calcutta, his *alma-mater*.

Prof Roychowdhuri is a faculty member and Ex-Head of the Department of Library & Information Science, Jadavpur University, Calcutta 700 032.

7.

Some Observations on Planning Education for Librarians by Kamakhya Gobinda Changdar. p. 25-28 [*in English*].

This paper provides some observations on planning of education and training for librarians.

(This paper is adopted from the ***Indian Journal of Library Science*** Vol. V, 1974).

K G Changdar is a former teacher of the Department of Library Science, University of Calcutta, College Street, Calcutta 700 073.

8.

A Report on Golden Jubilee Celebration by Biplab Chakrabarti and Arjun Dasgupta. p. 52-55 [*in English*].

This is an account of the Golden Jubilee Celebration activities of the Library Science Department during 1995-1996.

(Adapted from the report of the convener published in the ***Souvenir of the Golden Jubilee Celebration Committee***, University of Calcutta, 1996 with slight modification).

Biplab Chakraborti was the convener, Golden Jubilee Celebration Committee, and is a Senior lecturer of the Departmentof Library & Information Science, University of Calcutta, College Street, Calcutta 700 073.

Arjun Dasgupta was the Chairperson, Golden Jubilee Celebration Committee, and is a Reader of the Departmentof Library & Information Science, University of Calcutta, College Street, Calcutta 700 073.

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